IBM

IBM 5291 Display Station Operator's Guide

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Operator's Guide

This operator's guide provides three types of information:

1. How to operate the IBM 5291 display station.

2. Reference information about the IBM 5291.

3. What to do when things appear wrong.

This guide is for the IBM 5291 operator and supervisory personnel. It can be used as a learning tool as well as a source of reference information. The operator does not need to know any programming but should be familiar with typing.

Chapter 1 contains information that the operator needs to know to operate the IBM 5291 Display Station.

Chapter 2 contains reference information about the keyboard.

Chapter 3 explains the error codes and the recovery procedures.

Chapter 4 contains the problem determination procedures.

Chapter 5 contains the matrix printer verification test (5256 Printer).

A glossary is included at the back of this manual.

Note: This manual follows the convention that *he* means *he* or *she*.

Related Publications

- *IBM 5250 Information Display System Introduction,* GA21-9246, describes the work stations that make up the 5250 and their available functions and features.

- *IBM 5250 Information Display System Planning and Site Preparation Guide,* GA21-9337, provides environment, electrical, communications, space, furniture, and cable specifications to assist in planning for the setup of the IBM 5250 Information Display System. This manual also provides information to help the system programmer configure the system and prepare instructions for setup personnel at remote sites.

- *IBM 5291 Display Station Setup Procedures,* GA21-9408, provides step-by-step instructions for the setup and checkout of the IBM 5291 Display Station. This manual is used after the display station has been unpacked and placed in position.

- *IBM 5251 Display Station Models 2 and 12 Operator's Guide,* GA21-9323, describes the procedures required to operate the 5251 Models 2 and 12 and to correct situations when the 5251 does not operate as expected.

- *IBM 5250 Information Display System Reference Card,* GX21-9249, provides quick reference information for the 5250 Information Display System. The card includes information about error codes, the display screens, control panels, keyboard templates, and keyboards as well as quick checks for printer error conditions.

- *IBM 5250 Information Display System Functions Reference Manual,* SA21-9247, describes the programming requirements for communicating with the 5250 Information Display System. This manual also contains information to help a system programmer design a configuration using the 5250 system and to determine problem-causing areas within the remote link to that system.

- *IBM 5250 Information Display System Keyboard Template Assignment Sheet and Display Screen Layout Sheet*, GX21-9271, provides row and column layout of the display screen. The sheet can also be filled out for use by the key/data operator as a run sheet.

- *IBM 5291 Keyboard Template*, GX21-9410, provides forms that when filled out by the customer, identify 24 additional functions that can be assigned to the top row of keyboard keys. The template also contains customer problem determination procedures for the IBM 5291 Display Station.

- *IBM 5256 Printer Operator's Guide*, GA21-9260, describes how to operate the 5256 Printer and how to correct situations when the printer does not operate as expected.

- *IBM 5250 Information Display System Typewriter-Like Keytop Graphics*, GX21-9397, is an adhesive material form providing examples of keytops for use in customer developed documentation such as run books. The form contains keytop graphics from the typewriter-like keyboard on the IBM 5251 Display Station and the IBM 5252 Dual Display Station.

Contents

Chapter 1. Learning to Operate the Display Station

This chapter describes the Power switch, the Brightness and Alarm controls, the display screen, and the keyboard, as well as some common operator tasks.

GENERAL INFORMATION

The IBM 5291 is a tabletop display unit connected to a movable keyboard by a flexible cable. The 5291 is compatible with the IBM 5251 Models 1 and 11.

The keyboard for the 5291 is an 83-key typewriter-like keyboard that provides the following:

- Function control keys that are used to insert, delete, or move data, and to position the cursor

- A Cmd (Command) key that permits selection of 24 programmable command functions

- Typamatic keys that repeat their function when held down

- A 10-key numeric cluster that allows you to enter numeric data as on an adding machine

The 5291 has three major parts: the display unit, the keyboard unit, and the lower unit. (See the following illustration.) These names will be used throughout the manual to help locate switches and indicators on the 5291.
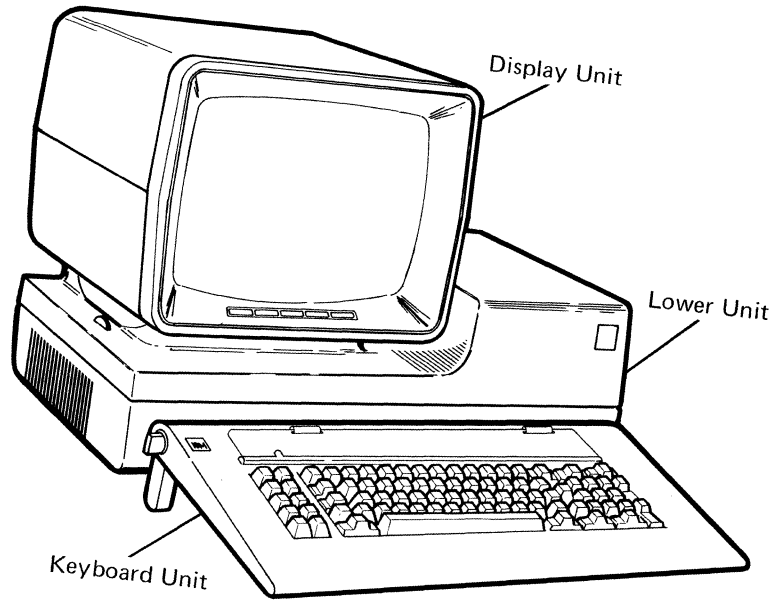
The Three Units of the IBM 5291 Display Station

Host System

In this manual, the term *system* refers to any host system that your display station is connected to. If you are working in a data communications environment, then the host system is the controlling or highest-level system in the configuration. The system can receive, process, and send back information entered by display station operators.

The term *display station* refers to the IBM 5291.

Cleaning

CAUTION
Do not use spray cleaners on the keys or near the keyboard. Do not use IBM cleaning fluid (methyl chloroform) or isopropyl alcohol for cleaning.

Use a cloth dampened with mild soap and water to clean the covers, keyboard, display screen, and display screen filter.

BASIC OPERATION

Once your 5291 Display Station is properly set up and checked out, you can learn how to operate it. For information on how to set up your 5291, refer to the *IBM 5291 Display Station Setup Procedures* shipped with your display.

The best way to learn to operate the display station is to use the switches, controls, and keys as you read about them.

Power Switch

The Power switch is on the right side of the lower unit near the rear corner. To turn the 5291 on, set the Power switch to On (I) by lifting upward. To remove power from the 5291, set the Power switch to Off (O) by pressing downward.

On(I)

Off(0)
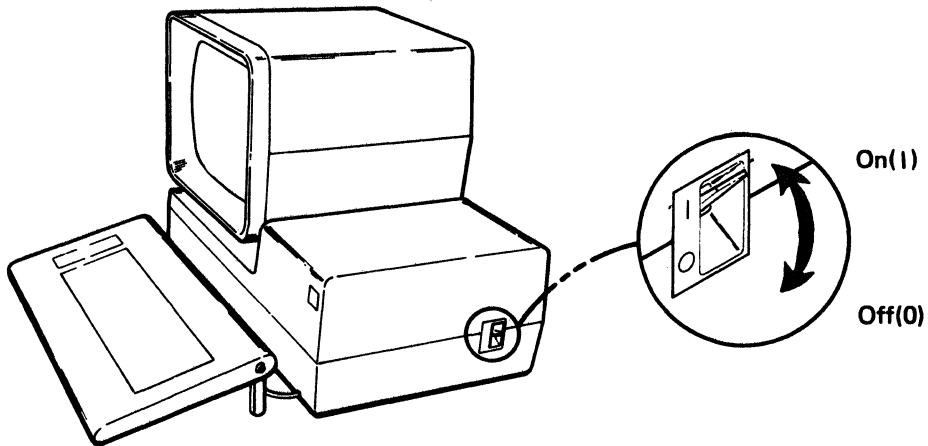
Whenever you set the Power switch to the On position, tests are automatically performed to tell you whether the 5291 is operating correctly. An alarm will sound when the tests have successfully been completed. If your display station is attached to the system, the screen should appear as follows:
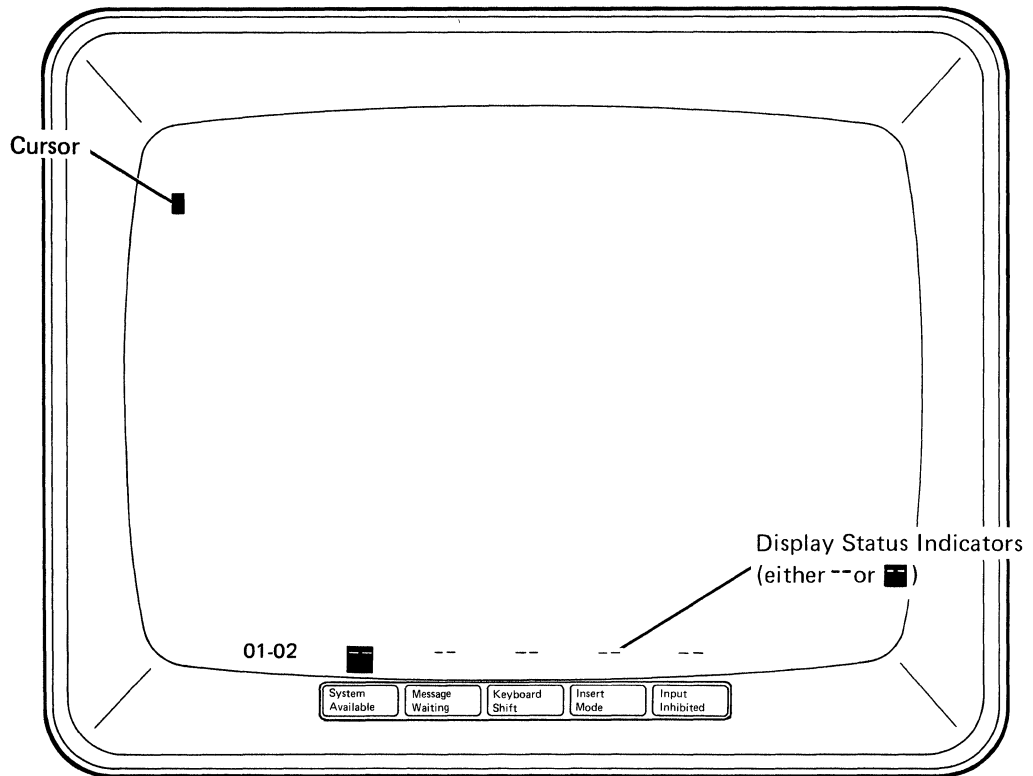
Note: Your display station must be connected to the system and the system must be operating. Otherwise, the screen will be different from the illustration.

If a problem is encountered during this diagnostic testing, see the *Problem Determination Procedures* in Chapter 4 of this manual or refer to the *IBM 5291 Keyboard Template*, GX21-9410.

Brightness Control

The brightness of the data on the display screen is controlled by the Brightness control on the left underside of the display unit. Turn the control while watching the screen and adjust to the level of brightness you desire.

Bright
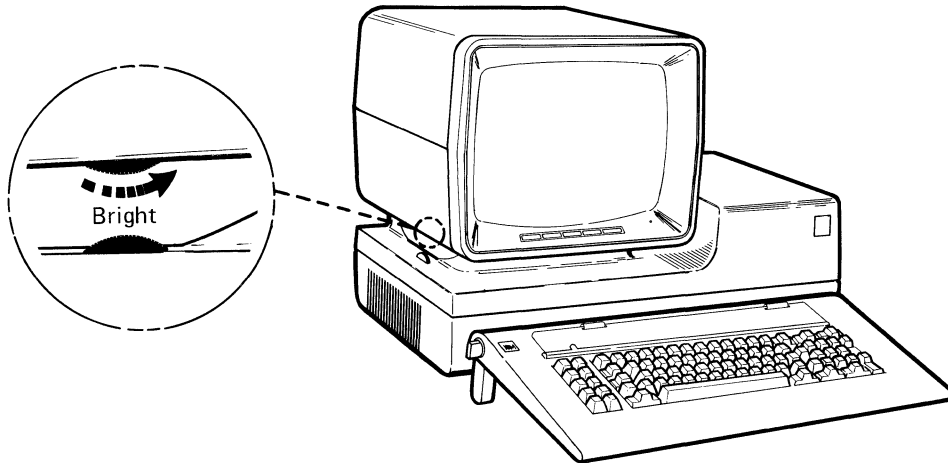
Alarm Control

The loudness of the display station alarm is controlled by the Alarm control.
The Alarm control is located on the left side of the lower unit. Adjust this
control to the loudness level you prefer.
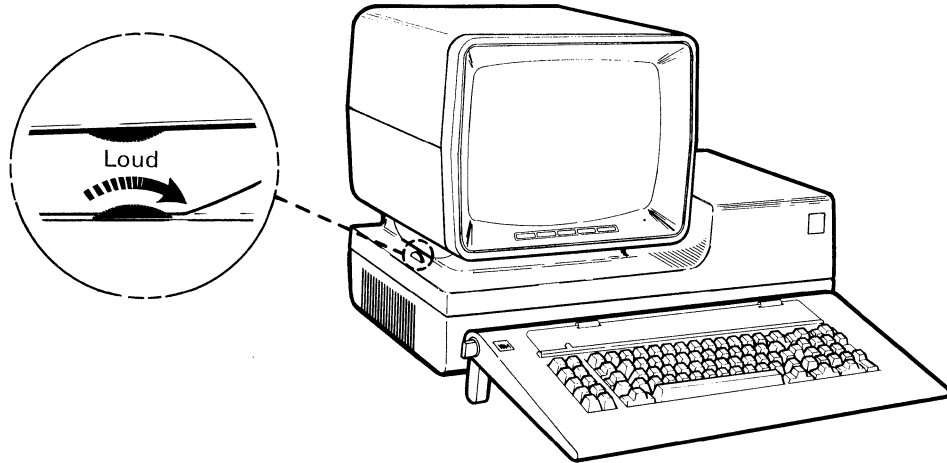
Adjusting the Slope of the Keyboard

The keyboard can be adjusted so that the slope of the keys is most comfortable for the operator. The keyboard can be used flat, or sloped approximately 10 degrees, 15 degrees, or 20 degrees.

Using the Keyboard at 20 Degrees

1. Rotate the left adjustment knob until the longest leg is locked into place (see the following illustration).

2. Rotate the right adjustment knob until the longest leg is locked into place.
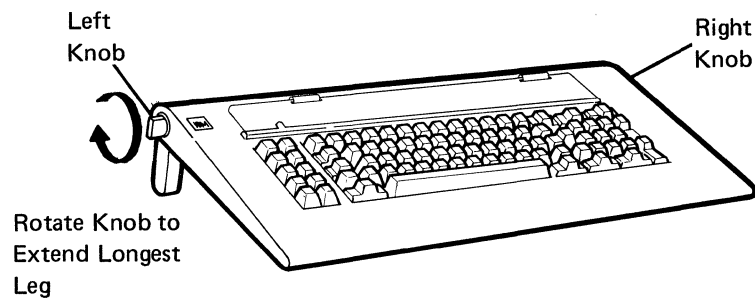
Using the Keyboard at 15 Degrees

1. Rotate the left and right adjustment knobs as described in *Using the Keyboard at 20 Degrees*.

2. Rotate the left and right adjustment knobs in the opposite direction from that in step 1 (see the following illustration). The longest leg will go back into the keyboard and a shorter leg (the middle-length leg) will remain extended.
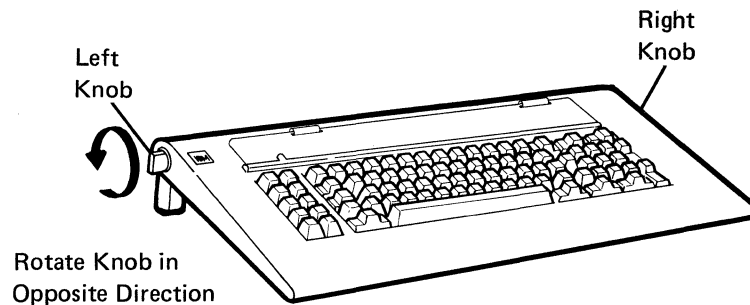
Using the Keyboard at 10 Degrees

1. Adjust the slope of the keyboard as described in *Using the Keyboard at 15 Degrees*. The middle-length legs should be extended.

2. Use your fingers to push the middle-length legs up into the keyboard (see the following illustration). The shortest legs will remain extended.

Longest Leg
(20 degrees)

Push the Middle-Length
Leg into the Keyboard

Shortest Leg
(10 degrees)

Middle-Length Leg
(15 degrees)
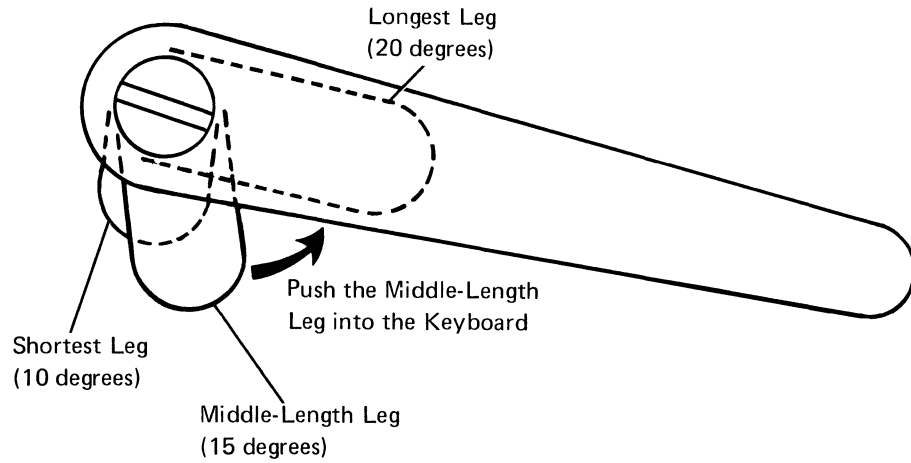
Adjusting the Viewing Angle of the Display Screen

The display unit of the 5291 tilts upward and downward so you can adjust the screen to a comfortable viewing position. To tilt the screen upward, place your hands on both sides of the display unit near the front edge and pull upward and towards you.
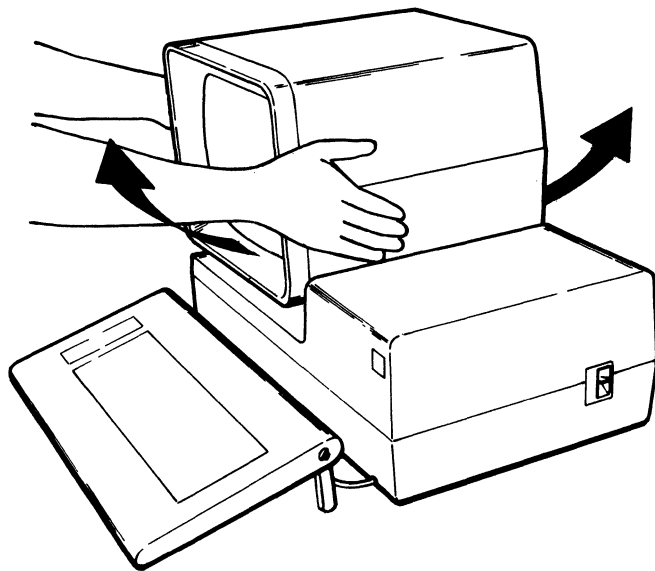
To lower the screen, place your hands on both sides of the display unit near the front and push downward and away from you.

THE DISPLAY SCREEN

The 5291 display screen can display 24 lines of data with up to 80 characters on each line (a maximum of 1920 characters). A status line at the bottom of the display is reserved for system and 5291 status information.

80 Characters

24 Lines

Status Line

| System Available | Message Waiting | Keyboard Shift | Insert Mode | Input Inhibited |
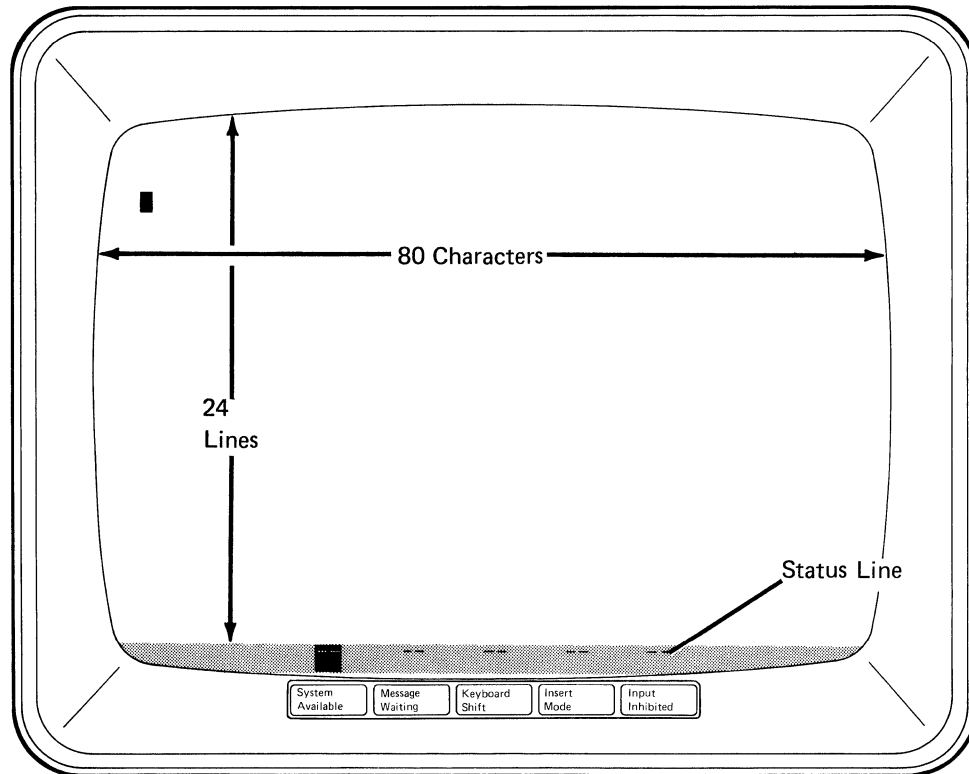
Display Status Indicators

Five display status indicators are located at the bottom of the 5291 display screen in an area known as the status line. These five indicators show the operating status of both the display station and the system or 5251 Model 2 or 12.

Display Status Indicators

| System Available | Message Waiting | Keyboard Shift | Insert Mode | Input Inhibited |
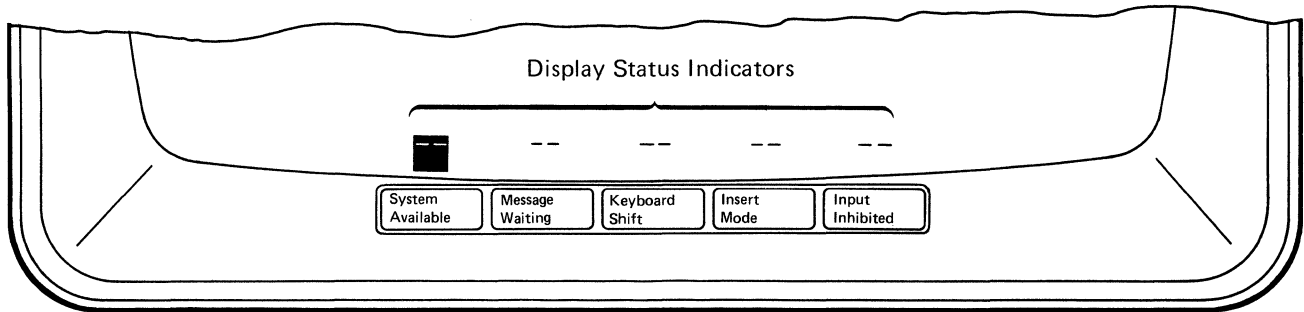
When the Power switch is set to the On position and the display station has warmed up, each of the five display status indicators will appear either on or off. The indicator is on when a square block (■) appears on the status line above the name of the indicator. The indicator is off when two dashes (--) appear on the status line above the name of the indicator.

The display status indicators and their meanings are as follows:

System Available

■ = The system or the 5251 Model 2 or 12 is operating
     and is available to the display station.
-- = The system or the 5251 Model 2 or 12 is not available
     to the display station.

If the System Available indicator does not come on, see the *Problem Determination Procedures* in Chapter 4 of this manual or the *IBM 5291 Keyboard Template*, GX21-9410.

Message Waiting

■ = The system has one or more messages for you.
     (An alarm may also sound when the Message Waiting
     indicator is on.)
-- = The system does not have a message for you.

Refer to the host system operating manual for information on how to obtain your messages.

Keyboard Shift

■   = The keyboard is in uppershift.
--   = The keyboard is in lowershift.

Refer to *Shift, Spacebar, and Special Symbol Keys* in Chapter 2 for information on how to change the keyboard shift.

Insert Mode

■   = Characters can be inserted into an existing field (from the keyboard) without destroying existing data.
--   = Characters cannot be inserted into an existing field without destroying data.

Refer to *Insert Mode Key* in Chapter 2 for an explanation of insert mode.

Input Inhibited

■   = Keyboard input will not be accepted by the system or the 5251 Model 2 or 12.
--   = Keyboard input will be accepted by the system or the 5251 Model 2 or 12.

When the Input Inhibited indicator is turned on, the alarm will sound when most keys are pressed. The alarm indicates that the system is not accepting your keystrokes.

The Input Inhibited indicator is turned on by the system or by the 5251 Model 2 or 12 while it is processing your data and requests. The Input Inhibited indicator is also turned on by error conditions; see Chapter 3, *Error Codes and Recovery Procedures*. If the condition is not error related and persists for an abnormal length of time, contact your supervisor for recovery instructions.

Cursor Location Information

The status line of the 5291 Display Station provides information that describes
the screen row and column location of the cursor. The illustration below shows
where this information appears:

Cursor Location
(row and column)

XX-XX ■   --   --   --   --
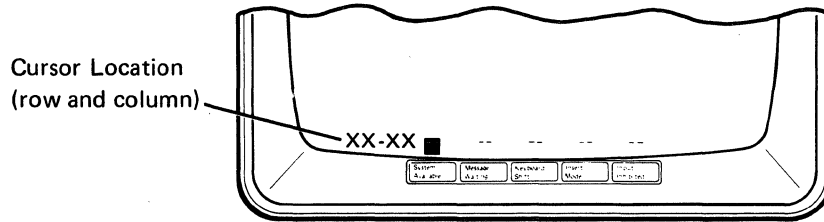
The cursor location is displayed on the status line as a four-digit number
separated by a dash (the first two digits represent the row that the cursor is in
and the second two digits represent the column). The display screen contains
24 rows (lines) of data with a maximum of 80 columns (characters) per row.
The following illustration shows how the display screen is divided into rows
and columns:

Cursor

Row 1

Row 6

Column   Column   Column
20   40   60

Row 24

06-60 ■   --   --   --   --

Cursor Location
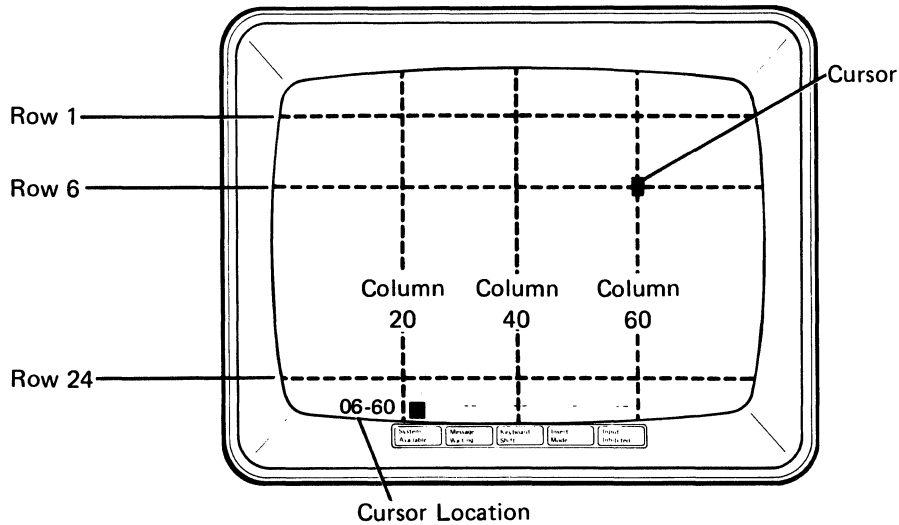
For example, the cursor in the illustration is in row 6 and column 60. This
would be displayed on your status line as 06-60.

Choosing The Cursor

The cursor appears on the display screen to show where the next character entered from the keyboard will appear. The cursor normally appears as a rectangular block (▐), however, you can change the cursor to appear as an underscore (__).

You can change the cursor by performing the following steps:

1. Press and hold down the [Cmd] (Command) key.

2. Press the [Error Reset] key.

If you want to change the cursor back to the rectangular block, repeat the above steps.

Display Highlighting and Formatting

The 5291 has several field highlighting characteristics to help draw attention to a certain display screen location or field, or to show any place you must enter data (input areas). These characteristics may appear in any combination.

This display formatting is accomplished through programming in the system. You might see one or more of the following display highlighting characteristics (attributes):

- *Reverse Image*—Characters in this field are displayed with a reversed image. For example, if light green characters are ordinarily displayed on a dark background, a reverse image field has dark characters on a light green background.

<div align="center">Name: James Rothey</div>

- *Column Separator*—Characters in this field are separated by dots. The dots appear below the character as shown in the following illustration.

<div align="center">Name: J.a.m.e.s. .R.o.t.h.e.y.</div>

- *Underscore*—Characters in this field have a continuous horizontal line below them.

<div align="center">Name: <u>James Rothey</u></div>

- *Blink*—Characters in this field blink repeatedly.

- *High Intensity*—Characters in this field are brighter than those with normal intensity.

- *Nondisplay*—Characters in this field are not displayed. For example, security codes or passwords used for signing on to the system are often entered in nondisplay fields.

Reversing the Display Image

The 5291 Display Station is also designed so that you can select the display image best suited to the lighting conditions of the room. You can change the display image from light green characters on a dark background to dark characters on a light green background.

You can change the display image by performing the following steps:

1. Press the [Cmd] (Command) key.

2. Press and hold down an [⇧] (Uppershift) key.

3. Press the [~`] (Grave Accent) key (the first key on the top row located to the right of the Cmd key).

If you want to change back to the previous display image, repeat the above steps.

THE KEYBOARD

The following illustration shows the typewriter-like keyboard. The dark keys are the function control keys. (See Chapter 2 of this manual for detailed information about each function control key.) The function control keys are used to insert, delete, and move data, and to position the cursor. The dotted keys in the illustration are data keys. Data keys are used in the same manner as the keys on a typewriter.
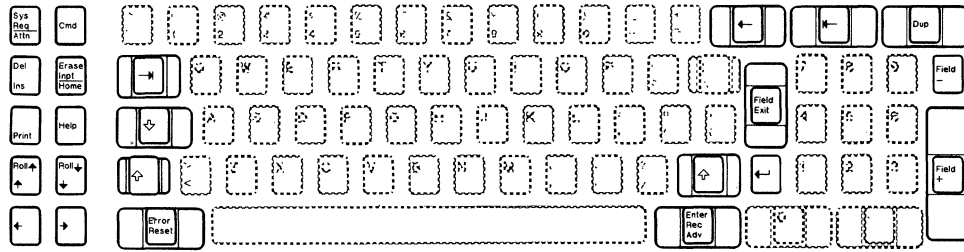
Typamatic Keys

• All of the data keys and many of the function control keys are typamatic. This means that if the key is held down, it repeats its character or function until it is released. In the following illustration, the dark keys are the typamatic keys.
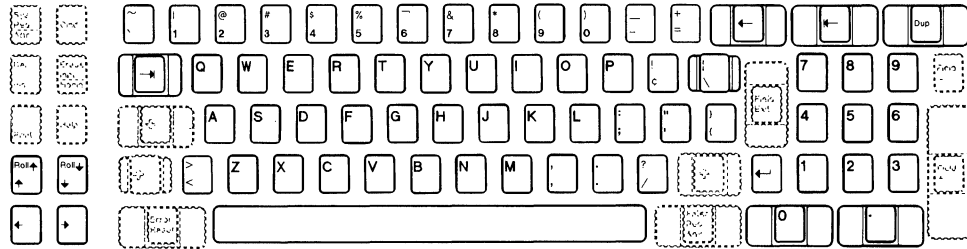
For an example of a typamatic function, press and hold the J key for a few seconds while observing the display screen. Notice that the letter J appears continuously on the display screen until you release the key.

Command Function Keys

The top row of data keys and the Character Backspace key, when used with the Command key, are known as the command function keys. Command function keys are used to communicate with the system program. The following illustration shows the command function keys.

The Command key is used to select the command functions that are described on the *IBM 5291 Keyboard Template,* GX21-9410. The command functions are assigned by the system programmer and permit the display station operator to communicate with the system program.

Each template has 24 spaces that correspond to the upper row of data keys on the keyboard. Your programmer can label the template to describe the functions of these keys. The template should then be placed in the area just above the top row of the keyboard keys as shown. Refer to *Command Key* in Chapter 2 for more detailed information.

Cursor Movement Keys

The cursor appears as a solid rectangle (or as an underscore) on the display screen. It shows where the next character entered from the keyboard will appear on the screen. The cursor can be moved to a different position by pressing a cursor movement key. Cursor movement keys allow you to move the cursor without changing or destroying the existing data. The following illustration shows the location of the cursor movement keys.

All cursor movement keys are typamatic (repeat their function when held down). To observe the cursor movement, press and hold down each of the following horizontal and vertical movement keys.

1. Press the [→] (Right Cursor Movement) key.

    The cursor moves from left to right. When the cursor reaches the end of a line, it moves to the first position of the next line.

    Note: To move the cursor faster, press and hold down an [⇧] (Uppershift) key and the [→] (Right Cursor Movement) key.

    The cursor will move approximately three times its normal speed.

2. Press the [←] (Left Cursor Movement) key.

    The cursor moves from right to left. After the cursor reaches the leftmost position of a line, it appears one line up on the right side of the screen.

    Note: To move the cursor faster, press and hold down an [⇧] (Uppershift) key and the [←] (Left Cursor Movement) key.

    The cursor will move approximately three times its normal speed.

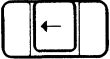3. Press the ⎡Roll↑⎤ (Up Cursor Movement) key and the ⎡Roll↓⎤

    (Down Cursor Movement) key.

    The cursor moves in the direction of the arrows. When the cursor moves off the top or bottom of the screen, it reappears on the opposite edge of the screen in the same vertical column.

4. Press the ⎣←⎦ (Character Backspace) key.

    The cursor moves back to the previous *enterable* character position (not necessarily the last position). For example, if you are entering data on a formatted display and the cursor is in the first position of an input field, when the Character Backspace key is pressed, the cursor moves back to the last position of the previous *input* field.

5. Press the ⎣→⎦ (Field Advance) key.

    The cursor moves forward (right) to the first character position of the next established input field.

6. Press the ⎣←⎦ (Field Backspace) key.

    The cursor moves back (left) to the first character position of the field it is in. If the cursor is already in the first character position, it moves back to the first character position of the previous *enterable* field.

7. Press the ⎣↵⎦ (New Line) key.

    The cursor moves to the first input position of the first input field of a new line.

This chapter explains the function control keys, cursor movement keys, and special symbol keys. Usage of these keys can vary depending on what host system you have. For more information, refer to your host system operating manual.

FUNCTION CONTROL KEYS

The function control keys perform system-related functions as well as operations on the display station. The function control keys are shown as the darkened keys in the illustration below.
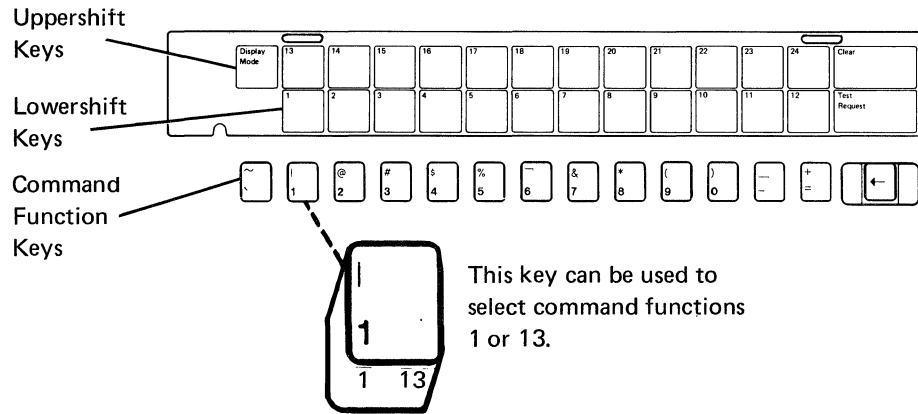
Command Key

Cmd
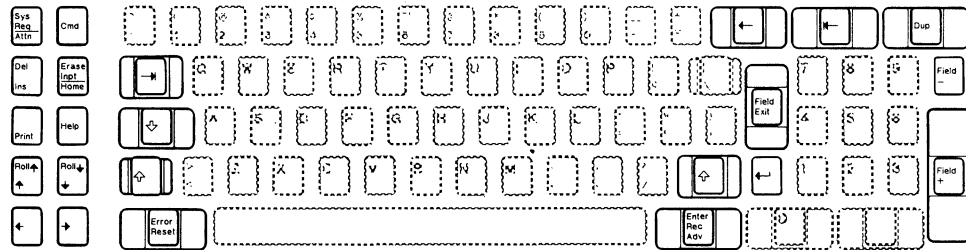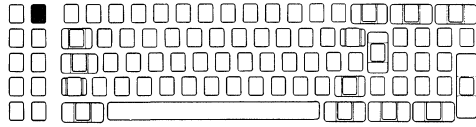
Pressing the Command key directs the system to disregard the normal function shown on the top row key and instead perform the function assigned to that key in the system program. The keyboard template fits in the recessed area just above the top row of keyboard keys. It can be used to indicate to the operator the command functions assigned to the top row of keys (called command function keys).

The illustration below shows how the keyboard template corresponds with the top row of keys. Note that each key can be used to select either of two command functions.

Uppershift Keys

Lowershift Keys

Command Function Keys

This key can be used to select command functions 1 or 13.

Selecting Functions on the Bottom Row of the Keyboard Template

To select the command functions shown on the bottom row of the keyboard template (1 through 12 and Test Request):

1. Press the [Cmd] (Command) key.

2. Press the top row key that is directly below the program function desired. Pressing any other key causes an error.

To cancel the selection procedure after you have pressed the Cmd key, press the Error Reset key.

Note: Pressing the Cmd key and the Error Reset key at the same time causes the cursor to change from an underscore to a solid rectangular block. This is explained in *Choosing the Cursor* in Chapter 1.

*Selecting Functions on the Top Row of the Keyboard Template*

To select the command functions shown on the top row of the keyboard template (Display Mode, 13 through 24, and Clear):

1. Press the [Cmd] (Command) key.

2. Press and hold an [⇧] (Uppershift) key. (The Uppershift key must be used even if the Keyboard Shift indicator is on.)

3. Press the top row key that is directly below the program function desired. Pressing any other key causes an error.

    To cancel the selection procedure after you have pressed the Cmd key, press the Error Reset key.
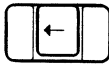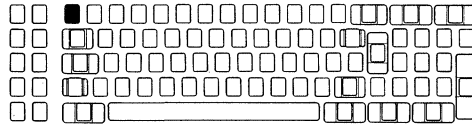
Test Request
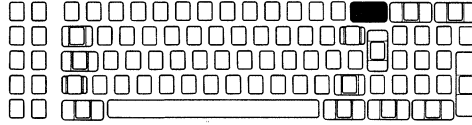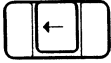
The test request command starts the test routines for your display station. (See Chapter 5, *Matrix Printer Verification Test.*)

To start the testing routines:

1. Press the [Cmd] (Command) key.

2. Press the [←] (Character Backspace) key. (The key located directly below the words Test Request on the keyboard template.)


Display Mode

The Display Mode command allows you to choose the most suitable display screen image. By using this command, you can switch back and forth from light green characters on a dark background to dark characters on a light green background.

To use the Display Mode command:

1. Press the [Cmd] (Command) key.

2. Press and hold an [⇧] (Uppershift) key.

3. Press the [~] (Grave Accent) key. (The key located directly below the words Display Mode on the keyboard template.)

Clear
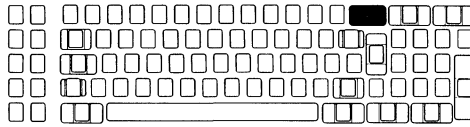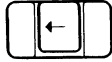
When the display station is operating without the system program in control of the display screen format (that is, with an unformatted display), the Clear command blanks the display (with the exception of the cursor and the display screen indicators). A system program can change the way this command operates, making recovery from an accidental Clear command possible. On some systems, you may have to set the Power switch to the Off position to blank the display because some system programs ignore the Clear command.

To use the Clear command:

1. Press the ☐Cmd (Command) key.

2. Press and hold an ☐⇧☐ (Uppershift) key.

3. Press the ☐←☐ (Character Backspace) key. (The key located directly below the word Clear on the keyboard template.)
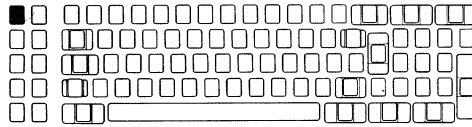
System Request/Attention Key

Use of the Sys Req/Attn key can vary depending on the system. With most systems, the Sys Req/Attn key can be used to:

- Initiate Sign-on to the system

- Initiate and select an alternate job

- Temporarily stop the present display station activity and allow selection of a new activity

- Notify the system that the display station is ready to select a new program or activity

- Request that the keyboard be unlocked (after normal error recovery action has failed) so that data entry can be continued

To use the system request function:

1.   Press and hold an ⬚ (Uppershift) key.

2.   Press the [Sys Req Attn] key.

3.   Press the [Enter Rec Adv] key.

To cancel the Sys Req/Attn key function, press the Error Reset key. Pressing any other key before pressing the Enter/Rec Adv key causes an error. However, if your display station is connected to a 5251 Model 2 or 12, data characters are allowed before pressing the Enter key.

To use the Attention function, press the [Sys Req Attn] key.

Delete Key
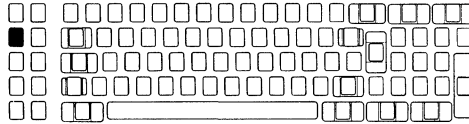
The Del/Ins key can be used to delete data from the display screen. When you do this, the character covered by the cursor is deleted and all characters to the right of the cursor (in the same field) are shifted to the left one position. Nulls (zero characters in the buffer displayed as blanks) are inserted at the end of the field as the characters are shifted left.

Note: The delete function is accepted only in *input* fields.

To use the delete function:

1. Position the cursor over the character to be deleted.

2. Press and hold an ⬆ (Uppershift) key.

3. Press the Del/Ins key.

Insert Key
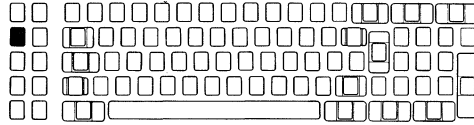
The Del/Ins key can be used to select insert mode. The insert mode allows you to insert a character or characters into an existing input field on your screen without destroying data already there. (There must be nulls [zero characters in the buffer displayed as blanks] in the rightmost positions of the field where the insert or inserts will be done.) New characters are inserted at the cursor position. When this happens, the existing characters are shifted to the right one position for each character inserted. The cursor also shifts to the right one position. If you attempt to insert more characters than there are nulls, the Input Inhibited indicator comes on, the keyboard locks, and an error message is displayed.

The insert function is not accepted in the last position of an input field.

To use the insert mode:

1.   Position the cursor at the location where the data is to be inserted.

2.   Press the [Del/Ins] key.

The Insert Mode indicator at the bottom of the display screen comes on (■) when the function is accepted.

3.   Enter the data to be inserted.

4.   To leave the insert mode, press the Error Reset key.

Note: If the Error Reset key is pressed during a system recovery procedure, the display station leaves insert mode. To reenter insert mode, press the Del/Ins key.

Erase Input Key
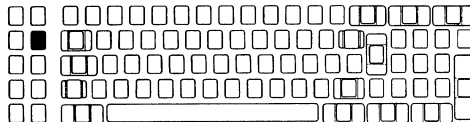
A function of the Erase Input/Home key is to erase data that was entered in all input fields. When you press this key, the cursor moves to the home position on the screen (usually the first input position of the first input field).

When the display station is in free key mode, use this key to erase everything on the display screen. In this case, the cursor automatically moves to the first input position on line 1.

To use the erase input function:

1.   Press and hold an (Uppershift) key.

2.   Press the key.

Home Key
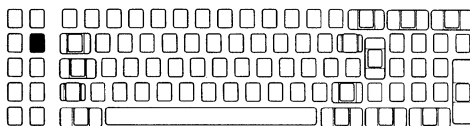
When the display screen is under the control of the system program and the Erase Input/Home key is pressed, the cursor moves to the system designated home position.

When the display station is in free key mode and you press this key, the cursor returns to the first input position on line 1.

When supported by the host system program, this key can be used to display a previous record. If the cursor is in the home position and you press this key, the previous record is displayed.

To use the Home key:

Press the key.

Print Key
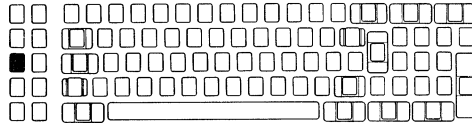
When you press the Print key, a print request is sent to the system. The system program selects the printer that will print the data being displayed.

To use the Print key:

Press the ⬜Print key.

Note: On some host systems, a print request can be canceled

when you press an ⬜⬆⬜ (Uppershift) key and the ⬜Print key. For more information, contact the host system operator.

Help Key
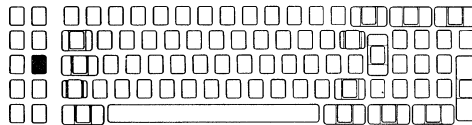
Press the Help key when you need a description of a current error condition or when you need further assistance from the system. (You must be signed on to the system and the system must be programmed to provide help.) For more information about the error condition see Chapter 3, *Error Codes and Recovery Procedures*.

To use the Help key:

Press the ⬜Help key

If you press the Help key during an error condition, a message might be displayed that describes the error unless the error resulted in a loss of communications with the host system. To continue entering data, press the Error Reset key. This will reset the help message, reset the error condition, restore the display screen, and unlock the keyboard.

Roll Keys
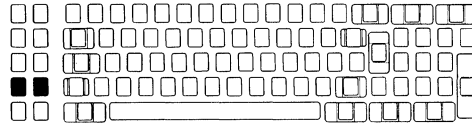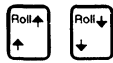
A Roll key is used to move the information on the display screen up or down. This movement repositions the information on the screen and allows you to view data either above or below what is normally viewed.

The system program controls the use of these keys for each individual job.

To use the Roll keys:

Press and hold an [⇧] (Uppershift) key; then press the [Roll↑] key or the [Roll↓] key.

Error Reset Key
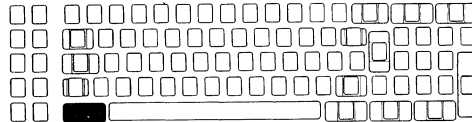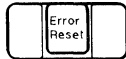
Press the Error Reset key to unlock the keyboard when it is locked because of an error condition.

The Error Reset key can also be used to reset the help, insert, system request, and command modes.

To use the Error Reset key:

Press the [Error Reset] key.

Enter/Record Advance Key
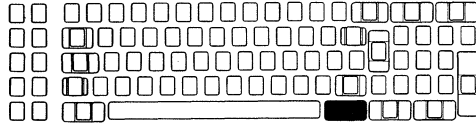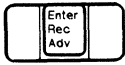
Press the Enter/Rec Adv key to indicate that the entered data is ready to be sent to the system.

An error code appears on the display screen and no data is sent to the system if you press the Enter/Rec Adv key when:

- No data has been entered in a mandatory entry field but data has been entered elsewhere on the display screen.

- A mandatory fill field contains some data but is not filled.

- A self-check field is not correct.

- The cursor is in a field exit required field.

- The display station is operating without the control of the system program (that is, with an unformatted display).

To recover from the error see Chapter 3, *Error Codes and Recovery Procedures* for the meaning of the error and do the recovery procedure listed.

To use the Enter/Rec Adv key:

Press the key.
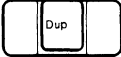
Duplicate Key
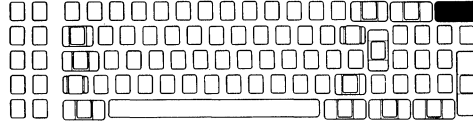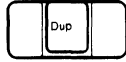
When you press the Dup key in a field programmed to allow duplication, an asterisk with an overscore ($\bar{*}$) is placed in the cursor position and all the following positions of that field. This special symbol represents a request to the program to duplicate the information from the same field in the previous record.

If you press the key in a field not programmed to accept duplication, an error is displayed.

To use the Dup key:

Press the   key.

Field Exit Key
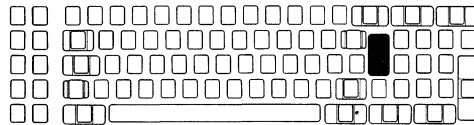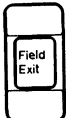
Use the Field Exit key to exit input fields. When you press this key, nulls (displayed as blanks) are inserted from the present cursor location to the end of the field. When you press this key in a right-adjust field, the data to the left of the cursor is shifted to the right. The vacated positions are filled with zeros or blanks as specified by the format and the cursor advances to the next input field. When you press this key in a signed numeric field, a blank is inserted in the last position of the field.

Press the Field Exit key to exit input fields that are specified by a program as right-adjust or field exit required fields. An error message is displayed if you press this key:

- When the cursor is in the first position of a mandatory *entry* field

- When the cursor is in any position of a mandatory *fill* field other than the first position or the last position if the cursor is blinking

- While the cursor is in a noninput position

To use the Field Exit key:

Press the ⬚Field Exit⬚ key.
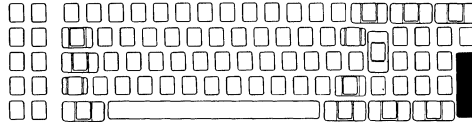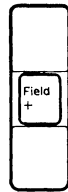
Field + Key

The Field + key operates as a Field Exit key in all fields.

To use the Field + key:
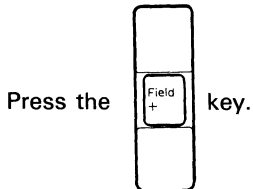
Press the [Field +] key.

Field - Key
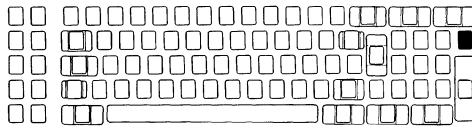
Use of the Field - key can vary depending on the system. However, with most systems the Field - key operates the same as the Field + and Field Exit keys except that it is allowed only in signed numeric and numeric only fields. Pressing this key inserts a - (minus) sign in the last position of a signed numeric field or it changes the last position of a numeric only field to an alphabetic character.

Note: The Field - key causes an error if used with any field not programmed to accept negative input.

To use the Field - key:

Press the [Field -] key.

CURSOR MOVEMENT KEYS

The cursor is a solid rectangle (or an underscore) that shows where the next character or symbol entered from the keyboard will appear on the display screen. Entering new data or changing existing data could require moving the cursor one position, or to a different field or line. The cursor movement keys accomplish these moves. An arrow on the keytop shows which direction the key will move the cursor. All cursor movement keys are typamatic, and cursor movement does not affect data already entered.

You *cannot* use the cursor movement keys:

• After you press the Cmd key

• On some host systems after you press the Sys Req/Attn key (For more information, refer to the host system operating manual.)

• To move the cursor from an input field while the display station is in insert mode

• To move the cursor out of a self-check field that does not match the self-check data

• To move the cursor from a partially filled mandatory fill field

A detailed explanation of each cursor movement key follows.

Moving the Cursor One or More Character Positions at a Time

Input field boundaries are ignored when you move the cursor with a horizont; or vertical movement key.

Horizontal Movement Keys
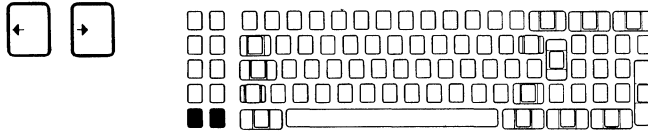
The Horizontal Movement keys cause the cursor to move in the direction indicated.

If you press the [→] (Right Cursor Movement) key and the cursor moves off the right side of the screen, the cursor reappears one line lower on the left side of the screen. When the cursor moves past the last position on the bottom line of the screen, the cursor reappears in the first position of the top line of the display screen.

Each time you press the [←] (Left Cursor Movement) key, the cursor moves one position until it moves off the left margin and reappears on the right margin, one line up. If the cursor moves past the first position on the top line (upper left corner) of the screen, the cursor reappears at the last position on the bottom line (lower right corner) of the display screen.

To move the cursor faster, you can use the high-speed cursor function. To use the high-speed cursor function, press

an [⇧] (Uppershift) key and either the Right Cursor Movement or Left Cursor Movement key. Each keystroke will move the cursor three positions.
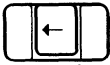
Vertical Movement Keys
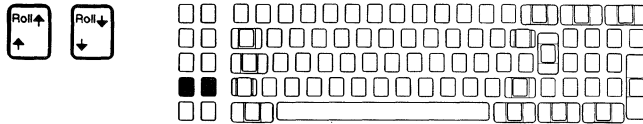
When you press the [Roll↑] (Up Cursor Movement) key, the cursor moves up one line; when you press the [Roll↓] (Down Cursor Movement) key, the cursor moves down one line. If you press the Up Cursor Movement key when the cursor is on the top line, the cursor moves to the same vertical column on the bottom line. And likewise, if you press the Down Cursor Movement key when the cursor is on the bottom line, the cursor moves to the same vertical column on the top line.

Character Backspace Key
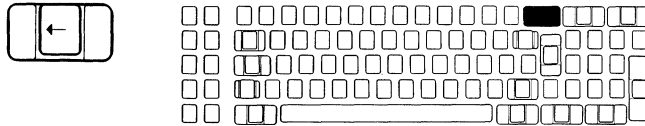
When you are operating under the control of the system program and you press the [←] (Character Backspace) key, the cursor moves back to the previous *enterable* character position (not necessarily the last position).

For example, if you are entering data on a formatted display and the cursor is in the first position of an input field, when the Character Backspace key is pressed, the cursor moves back to the last position of the previous *input* field.

Note: If you press this key after pressing the Command key, the function is different. See the descriptions of the Test Request command and Clear command in this chapter for more information.

Moving the Cursor to the Beginning of a Field or New Line

Field Advance Key
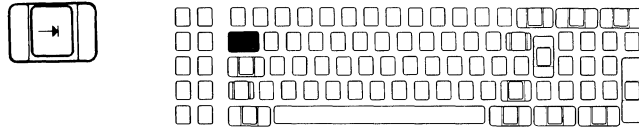
When you press the ⬚ (Field Advance) key, the cursor moves forward (right) to the first character position of the next established input field.

In fields specified as automatic enter, the auto enter function is not performed when you move the cursor through that field using the Field Advance key.

If you press this key when the cursor is in the last field on the screen, the cursor moves to the first position of the first field on the screen.

Field Backspace Key
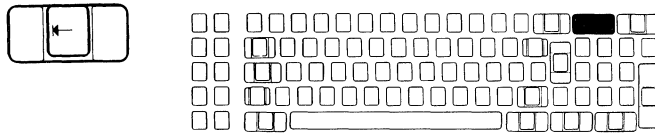
When you press the ⬚ (Field Backspace) key, the cursor moves back (left) to the first character position of the field it is in. If the cursor is in the first position of a field, it moves back to the first position of the preceding input field.

New Line Key
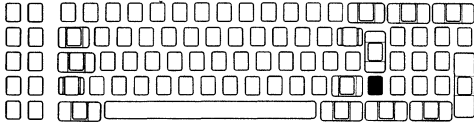
When you press the ⬅ (New Line) key, the cursor moves to the first input position of the first input field of a new line. If the cursor is on the last input line of the display screen, the cursor moves to the first input position of the display screen.

SHIFT, SPACEBAR, AND SPECIAL SYMBOL KEYS

Shift Keys
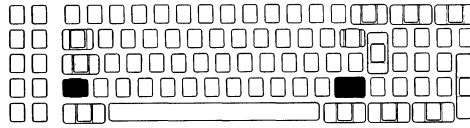
When you press and hold an ⬆ (Uppershift) key:

- The alphabetic characters (A through Z) are entered as uppercase letters.

- The special characters identified on the tops of the numeric and symbol keys can be entered.

- The function control keys perform the function shown on the top half of the key.

- The command function keys perform the function shown on the top row of the keyboard template (Display Mode, 13 through 24, and Clear).

Shift Lock Key
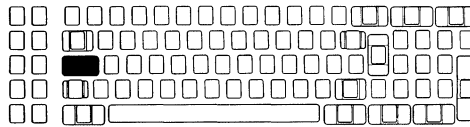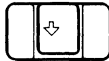
When you press the ⬆ (Shift Lock) key:

- The keyboard locks in uppershift.

- The alphabetic characters (A through Z) are entered as uppercase letters.

- The special characters identified on the tops of the numeric and symbol keys can be entered.

- The function control keys perform the function shown on the top half of the key.

- The command function keys perform the function shown on the bottom row of the keyboard template (1 through 12 and Test Request).

You can return the keyboard to lowershift by pressing and releasing either of the Uppershift keys.
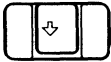
Spacebar
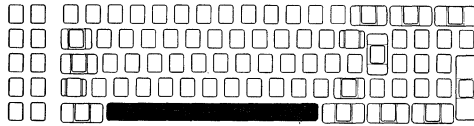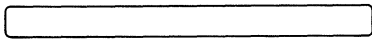
The Spacebar moves the cursor to the right one position at a time. Unlike the cursor movement keys, the Spacebar destroys all data in the positions where it is used. A blank is entered each time you press the Spacebar.

Special Symbol Keys

Some symbols and punctuation marks are on the upper half of the numeric keys (on the top row). Other symbols and punctuation marks are on keys with special symbols on both upper and lower positions. To display the upper symbol, press the (Shift Lock) key or press and hold an (Uppershift) key and the desired key.

Chapter 3. Error Codes and Recovery Procedures

If a keying error occurs while you are entering information:

- The cursor blinks (marking the location of the error)

- The display station ignores any additional data entered from the keyboard

- The display station alarm sounds each time you press a key

- A four-digit system error code is displayed on the screen (usually on the last line of the display screen)

You should find the four-digit error code in this chapter and attempt the recovery procedure.

Note: Error codes 0040 through 0054 are communications type errors and must be corrected at the 5251 Model 2 or 12 to which you are attached.

HELP KEY FUNCTION

A Help key function is provided on some systems to aid in error recovery. If an error code is displayed after you sign on to the system, press the Help key. A message will be displayed describing the error condition. After you finish reading the message, press the Error Reset key. You should then be able to continue entering data to your display station.

ADDITIONAL INFORMATION

Additional error information can be found in the system messages manual. If you are not able to recover from an error, refer to the *Problem Determination Procedures* in Chapter 4 of this manual or to the *IBM 5291 Keyboard Template,* GX21-9410.

ERROR CODES

The error codes, their meanings, and the recovery procedures are as follows:

Error
Code   **Meaning**

0000   You have pressed the Help key; however, either no error code was
         displayed or the error was issued by a program that does not support
         the Help key.

         To recover, press the Error Reset key. Then continue entering
         information or refer to the meaning for the previous error code
         displayed and do the recovery procedure listed.

0001   The host system or 5251 Model 2 or 12 could not keep up with the
         rate at which you entered information and the last characters you
         entered were not recognized.

         To recover, press the Error Reset key and continue entering
         information.

0002   The system or 5251 Model 2 or 12 received a key code that is not
         valid and therefore does not recognize which key you pressed.

         To recover, press the Error Reset key and try to continue entering
         data. If the error cannot be reset or still occurs, contact the IBM 5291
         service representative and report the problem.

0003   You have pressed the Cmd key, but the next key you pressed was not
         one of the command function keys.

         To recover, press the Error Reset key and continue by using the
         correct keys.

0004   You have attempted to enter data into a field that does not allow
         keyboard input. This field is defined as an I/O feature field.

         To recover, press the Error Reset key.

0005   You have attempted to enter data; however, the cursor is not in an
         input field. Data cannot be entered in a protected area of the display.

         To recover, press the Error Reset key and move the cursor to a valid
         input field.

0006   After pressing the Sys Req/Attn key and prior to pressing the
         Enter/Rec Adv key or the Error Reset key, you pressed a key that is
         not valid.

         To recover, press the Error Reset key and use a valid key sequence.

0007 There is at least one mandatory enter field on the display that you must enter data into before the display can be changed or moved. (The cursor goes to the first character position of the first mandatory entry field requiring data.)

To recover, press the Error Reset key and enter the required data.

0008 The field you are now trying to enter data into will take only alphabetic data and you have pressed a nonalphabetic key.

Valid characters are A through Z, blank, comma, period, and hyphen.

To recover, press the Error Reset key and continue by using valid characters.

0009 The field you are now trying to enter data into will take only numeric data and you have pressed a nonnumeric key.

Valid characters are 0 through 9, blank, comma, period, plus, and minus.

To recover, press the Error Reset key and continue by using valid characters.

0010 The field you are now trying to enter data into will take only signed numeric data and you have pressed some other key.

Valid characters are 0 through 9.

To recover, press the Error Reset key and continue by using valid characters.

0011 You have attempted to enter data into the last position of a signed numeric field.

To recover, press the Error Reset key. Make sure that the data is correct and exit the field by using the Field -, Field +, or Field Exit key.

0012 There is no room to insert data into this field. Either there is no more room in the field or the cursor is in the last position of the field.

Do not use insert mode to change data or to enter the last character into this field.

To recover, press the Error Reset key. Then, correct the field, if necessary, and continue.

0013 You attempted to leave a field while the display station was still in the insert mode.

To recover, press the Error Reset key and exit the field normally.

0014 You have pressed a function key that would move the cursor out of this field; however, the requirements of this mandatory fill field have not been met. A mandatory fill field must be completely filled or left blank.

    To recover, press the Error Reset key. Then enter data to fill the entire field or move the cursor to the start of the field and then use the **Field –**, **Field +**, or **Field Exit** key to blank all of the field.

0015 You have entered data into a self-check field and the number and the check digit you have just entered do not compare.

    To recover, press the Error Reset key. Check that you have correctly entered the number and check digit. If you have entered them correctly, check that the number is valid for a self-check field. If the numbers you are using are valid but this error still occurs, contact your service representative and report the problem.

0016 You have pressed the Field – key, but the field you are in is not a signed numeric field or (for some systems) a numeric only field.

    To recover, press the Error Reset key. You can now continue to enter data or press the Field Exit key to leave the field.

0017 You have pressed the Field –, Field +, or Field Exit key; however, the requirements for this mandatory fill field have not been met. A mandatory fill field must be completely filled unless you exit it from the first position of the field.

    To recover, press the Error Reset key. Then enter data to the end of the field or move the cursor to the start of the field and use the **Field –**, **Field +**, or **Field Exit** key to blank all of the field.

0018 You must use a nondata key such as the Field Exit key or a cursor movement key, to leave this field.

    To recover, press the Error Reset key. Then use a nondata key to leave this field.

0019 You have pressed the Dup key; however, the Dup key is not permitted in this field.

    To recover, press the Error Reset key and continue without using the Dup key in this field.

0020   You have pressed a key that is not allowed in this field. This is either
        a right-adjust or a signed numeric field and you must exit the field
        before pressing the following keys: command function keys, Character
        Backspace key, Enter/Rec Adv key, Print key, Help key, Roll keys, and
        the Home key (when the cursor is in the home position).

        To recover, press the Error Reset key. The cursor is in the same
        position it was when you pressed the invalid key. Continue by
        pressing the Field +, Field -, or Field Exit key.

0021   The cursor is positioned in a mandatory enter field. A mandatory enter
        field must have data entered in it before you can exit the field by
        pressing the Field +, Field -, or Field Exit key.

        To recover, press the Error Reset key and enter the required data.

0022   A system error has occurred. The status of the present field is not
        known. This error can occur during an insert or delete operation.

        To recover, press the Error Reset key. Check the display screen to
        determine if the insert or delete function was completed properly. If
        not completed properly, correct the field.

0023   You are in hexadecimal mode but the first key pressed was not a
        character A through F or 4 through 9; or the second key pressed was
        not a character A through F or 0 through 9.

        This error also occurs when a hexadecimal code is used in a numeric
        only, signed numeric, alpha only, or I/O field.

        To recover, press the Error Reset key. Continue by using the correct
        keys.

0026   You pressed the Field - key to exit a numeric only field but the last
        position of the field was not a character 0 through 9.

        To recover, press the Error Reset key. Correct the last position of the
        field or exit the field by using the Field + or Field Exit key.

0027   You pressed a key that is not used by this display station.

        To recover, press the Error Reset key and continue by using valid
        keys.

0028   You pressed a key that is not used by this display station.

        To recover, press the Error Reset key and continue by using valid
        keys.

0029   The second key pressed during a diacritic key function did not result in
        a valid combination.

        To recover, press the Error Reset key and enter a valid combination.

0040   The 'data set ready' line is inactive and it should be active.

        Recovery from this error must be made at the 5251 Model 2 or 12.

0042   The receive clock signal failed during a receive operation.

        Recovery from this error must be made at the 5251 Model 2 or 12.

0043   The 'data set ready' line is active and it should be inactive.

        Recovery from this error must be made at the 5251 Model 2 or 12.

0044   The 30-second communications time-out has expired with no valid
        data being received.

        Recovery from this error must be made at the 5251 Model 2 or 12.

0050   Either the 'clear to send' line was inactive while the 'request to send'
        line was active or the 'clear to send' line was active while the 'request
        to send' line was inactive.

        Recovery from this error must be made at the 5251 Model 2 or 12.

0051   The transmit clock signal failed during a transmit operation.

        Recovery from this error must be made at the 5251 Model 2 or 12.

0052   The 5251 Model 2 or 12 has detected an internal error.

        Recovery from this error must be made at the 5251 Model 2 or 12.

0054   The 5251 Model 2 or 12 received a command that was not valid from
        the host system during communications.

        Recovery from this error must be made at the 5251 Model 2 or 12.

0097   Online verification tests are not possible. The host system does not
        have the programming to support these tests.

        To recover, press the Error Reset key. Then continue to use the
        display station without performing the verification tests.

0099   To recover, determine when the error occurred (before, during, or after
        sign-on) and then refer to the following for the meaning and recovery
        procedure:

Error Occurred Before Sign-On

The function key you pressed is not valid at this time.

To recover, press the Error Reset key. Then use the correct procedure to sign on. (On most systems, you can initiate sign-on by pressing the Sys Req/Attn key.)

Error Occurred During Sign-On

Either the host system is not operating or the 5251 Model 2 or 12 is not communicating with the host system.

To recover, press the Error Reset key. Then use the correct procedure to sign-on. If the error persists, contact the host system operator and ensure that the host system is operating.

If the display station is attached to a 5251 Model 2 or 12, contact the 5251 Model 2 or 12 operator and ensure that the 5251 Model 2 or 12 is communicating with the host system.

Error Occurred After Sign-On

The program or utility did not recognize the key you pressed.

If the display station is attached to a 5251 Model 2 or 12, this error can be caused by a loss of communication between the 5251 Model 2 or 12 and the host system.

To recover, press the Error Reset key, then try to do a different type of job or procedure. If the error does not occur again, there is a system programming problem or a keying error. If the error does occur again and the display station is attached to a 5251 Model 2 or 12, contact the 5251 Model 2 or 12 operator to determine if communications with the host system have been lost. If the display station is not attached to a 5251 Model 2 or 12, contact the host system operator to determine if there is a problem with the system.

For additional error code information, contact the host system operator.

If you are not able to recover from an error, refer to the *Problem Determination Procedures* in Chapter 4 of this manual or to the *IBM 5291 Keyboard Template*, GX21-9410.

Chapter 4. Problem Determination Procedures

SAFETY PRECAUTION: If you detect smoke, excessive heat, or unusual odors coming from your display station, immediately set the Power switch to Off, disconnect the power cord, and call a service representative.

This chapter can help you solve a problem with your IBM 5291 Display Station. Check to see if any of the following six symptoms describe your problem, and attempt the corrective actions. (The symptoms are numbered **1** through **6**.) Your service representative should be called if you cannot correct the problem. *Examine all six symptoms before calling your service representative.*

1 **SYMPTOM:**

XXXX
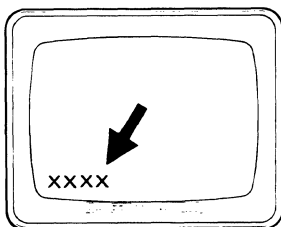
A four-digit system error code is displayed. (This error code is displayed in the lower left corner of the display screen.)

CORRECTIVE ACTION:

Find the error code in Chapter 3 of this manual and take the corrective action.

2 **SYMPTOM:**
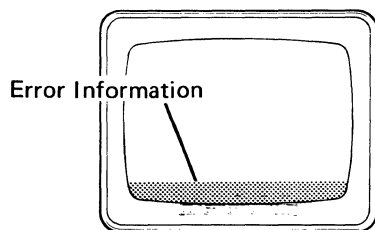
Error Information

Error information is displayed on the status line. (Usually only dashes and rectangles are displayed on the status line.)

CORRECTIVE ACTION:

Turn to the next page.

CORRECTIVE ACTION:

The following illustration shows the position of error information on the status line. Try to determine the type of information you have and go to the correct symbol (**A**, **B**, **C**, **D**, or **E**). (If you cannot determine the type of error you have, refer to the *IBM 5291 Display Station Keyboard Template*, GX21-9410. The template can be held up to the screen and used as a guide in determining what types of error information are displayed.)

Line Check Count
(See **A**.)

Display Station Address
(See **B**.)

Engineering Code field
(See **C**.)

Stuck Key field
(See **D**.)
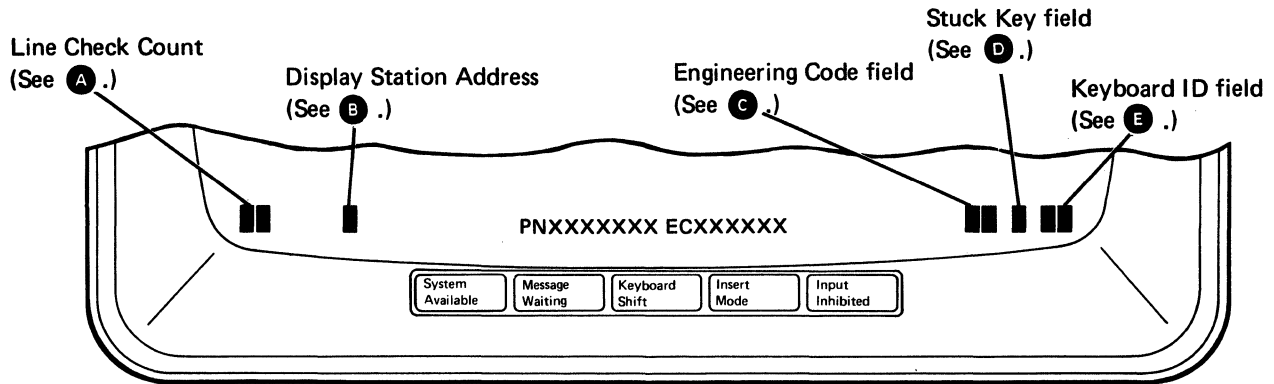
Keyboard ID field
(See **E**.)

PNXXXXXXX ECXXXXXX

System Available   Message Waiting   Keyboard Shift   Insert Mode   Input Inhibited

A   **00-05: Normal operation.** Ignore this position.
06-99: Verify Terminator switch setting and check work station cables. Contact your system operator and check the Terminator switch setting on your display station and all other work stations on your cable. (Refer to the *IBM 5291 Display Station Setup Procedure*, GA21-9408.) Also check that all work station cables are tight. Then set the Power switch to Off, wait 10 seconds, then set the Power switch to On.

B   **0-6: Address switch setting.** This number should match the address of your display station. Contact your system operator and reset the Address switches on your display station if these numbers do not match. (Refer to the *IBM 5291 Display Station Setup Procedure*, GA21-9408.) After resetting the Address switches, set the Power switch to Off, wait 10 seconds, then set the Power switch to On.
7: Invalid Address switch setting. Contact your system operator and ask for assistance in resetting the Address switches on your display station. (Refer to the *IBM 5291 Display Station Setup Procedure*, GA21-9408.) After resetting the Address switches, set the Power switch to Off, wait 10 seconds, then set the Power switch to On.

C   **E0-E6: Machine error.** Set the Power switch to Off, wait 10 seconds, then set the Power switch to On. If the problem persists, report this error to your service representative.
E7: If you have a **0, 1, 2, 3, 4, 5, or 6** displayed in position **B**, report the E7 error to your service representative. If you have a **7** displayed in position **B**, contact your system operator and ask for assistance in resetting the Address switches on your display station. (Refer to the *IBM 5291 Display Station Setup Procedure*, GA21-9408.) After resetting the Address switches, set the Power switch to Off, wait 10 seconds, then set the Power switch to On.

D   **1: Stuck key.** Examine the display station keyboard and remove any objects that may be holding a key down. Report a **stuck key** to your service representative if this problem persists.

E   **00-31: Normal operation.** Ignore this position.
KU, LU, LV, LW, or any other letters: Set the Power switch to Off, wait 10 seconds, then set the Power switch to On. If the problem persists, report this error to your service representative.

▓ SYMPTOM:
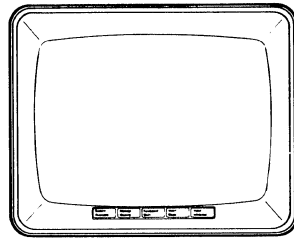
BLANK SCREEN

The display screen is blank. (No status indicators can be seen and the cursor is missing.)

CORRECTIVE ACTIONS:

1. Adjust the Brightness control.

2. Set the Power switch to Off.

3. Make sure that you have power at the wall outlet.

4. Make sure that the display station power cord is securely plugged into the rear of the display station and securely plugged into the wall outlet.

5. Make sure that the cable from the display unit is tightly fastened in its socket on the rear of the lower unit. (The thumbscrews should be turned clockwise until tight.)
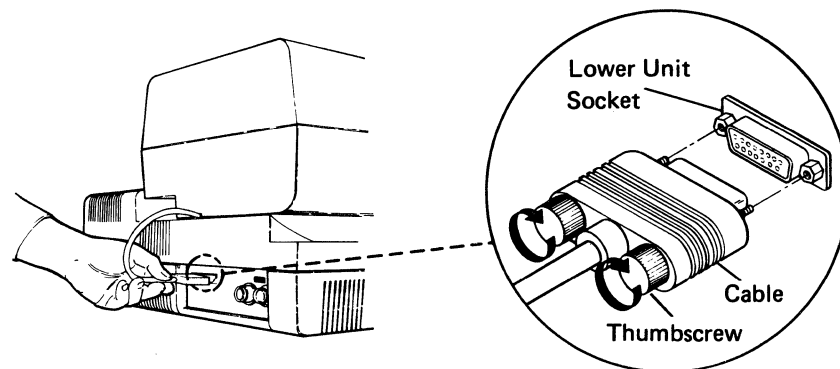
6. Set the Power switch to On and listen for the alarm.

7. If the screen is still blank, call your service representative and report a **blank screen**. Also report whether or not you heard the alarm.

■4 **SYMPTOM:**
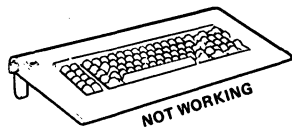
The keyboard is not working. (When you press keys, an alarm sounds and no data appears on the display screen.)

NOT WORKING

CORRECTIVE ACTIONS:

1. Set the Power switch to Off, wait 10 seconds, then set the Power switch to On.

2. Test the keyboard by pressing a few data keys. If the screen remains blank, call your service representative and report a **keyboard problem**. If characters are displayed on the screen, contact your system operator and ask if the system is operating correctly.

▌5 **SYMPTOM:**
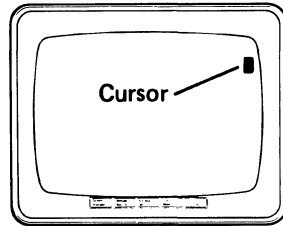
The cursor is in the upper right corner of
the display screen.

Cursor

CORRECTIVE ACTIONS:

1. Contact your system operator and make sure the system is operating correctly.

2. Make sure that the work station cable between your display station and the system is securely fastened and is not physically damaged.

3. Make sure that the Address switches on your display station are set to the proper address. Ask your system operator for assistance. (Refer to the *IBM 5291 Display Station Setup Procedure*, GA21-9408.)

4. Make sure that the Terminator switch on your display station, and the Terminator switches on all other display stations on your cable, are set properly. Ask your system operator for assistance.

5. Call your service representative if the problem persists and report that **your display station is not communicating with the system.**

6 **SYMPTOM:**

You still have a problem. (Your display station is not operating as expected and you have none of the previous five symptoms.)

CORRECTIVE ACTIONS:

1.   Contact your system operator and make sure that the system is operating correctly.

2.   Make sure that the work station cable between your display station and the system is securely fastened and is not physically damaged.

3.   Make sure that the Address switches on your display station are set to the proper address. Ask your system operator for assistance. (Refer to the *IBM 5291 Display Station Setup Procedure*, GA21-9408.)

4.   Make sure that the CSR switch on the back of your display station is set to N (Normal).

CSR Switch
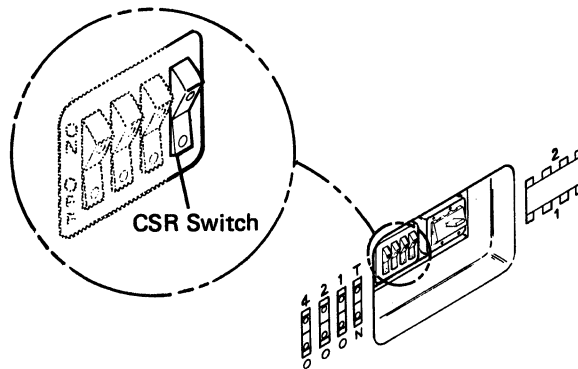
5.   Call your service representative if you still have a problem.

MATRIX PRINTER VERIFICATION TEST

This test is used to check the operation of an IBM 5256 printer. In order to interpret the results of this test, you will need a copy of the *IBM 5256 Printer Operator's Guide*, GA21-9260.

1. Set the Power switch to the On position.

2. If your display station is attached to a System/38, go to step 3. Otherwise, press and hold down an Uppershift key; then press the Sys Reg/Attn key. Then press the Enter/Rec Adv key.

3. When the sign-on screen is displayed, press the Cmd key.

4. Press the Test Request key (shown on the keyboard template).

   The following Prime Option Menu is displayed:

```
PRIME OPTION MENU        Select option --)_                      DISPLAY W1

C Terminate                      3 Configuration data
1 Display station verification   4 ERAP
2 Printer verification           5 Link test

Use the following lines to verify correct operation of keyboard data keys,
```

5. Press the 2 key, then the Enter/Rec Adv key.

The following Matrix Printer Verification display is displayed:

```
**********PRNTVER1**********TESTREQ**********************************************
*  MATRIX PRINTER VERIFICATION                                    DISPLAY X1  *
*                                                                             *
*    █  SELECT PRINTER OR ENTER C TO RETURN TO PRIME MENU                     *
*                                                                             *
*    MATRIX PRINTERS ON SYSTEM                                                *
*    P2  P3                                                                   *
*                                                                             *
*                                                                             *
*                                                                             *
*                                                                             *
*                                                                             *
*                                                                             *
*                                                                             *
*                                                                             *
*                                                                             *
*                                                                             *
*                                                                             *
********************************************************************************
```

6. Enter the printer identification code (a letter followed by a number). If necessary, call your system operator or the 5251 Model 2 or 12 operator for the printer identification code. After entering this code, press the Enter/Rec Adv key. If you receive the message shown in this display, proceed to step 7.

```
MATRIX PRINTER VERIFICATION                                    DISPLAY X1

  1 SELECT OPTION

  C RETURN TO PRIME OPTION MENU
  1 PRINT TEST 1 TIME
  2 PRINT TEST 2 TIMES
  3 PRINT TEST 5 TIMES
  4 PRINT TEST CONTINUOUSLY

  P3 IS THE PRINTER SELECTED
```

If the printer is offline or is allocated to another job, press the C key and the Spacebar once. Then press the Enter/Rec Adv key. Try to do the test later when your printer can be allocated.
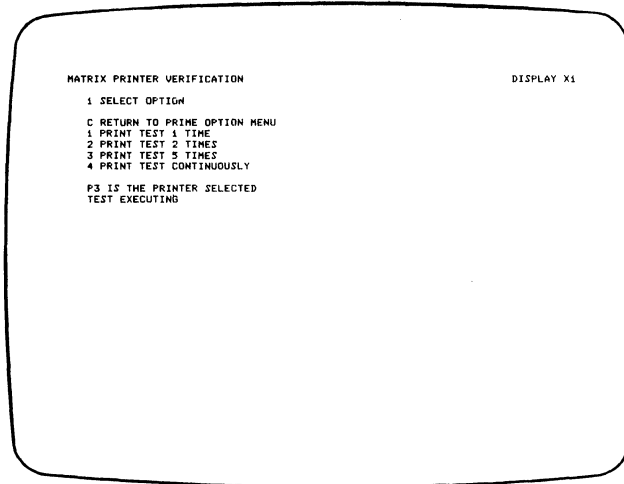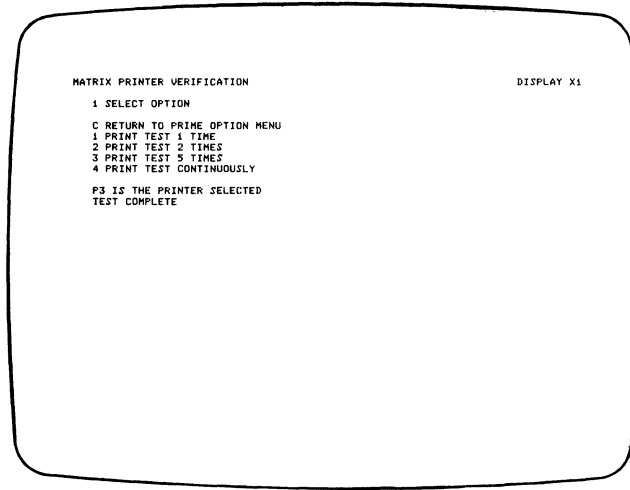
7. Enter the number from the display (1 through 4) that corresponds to the number of times you want to run the print test.

8. Press the Enter/Rec Adv key. Refer to the *IBM 5256 Printer Operator's Guide*, GA21-9260, for the printout results.

   If your test is executing properly, you will get this message:

```
MATRIX PRINTER VERIFICATION                                    DISPLAY X1

  1 SELECT OPTION

  C RETURN TO PRIME OPTION MENU
  1 PRINT TEST 1 TIME
  2 PRINT TEST 2 TIMES
  3 PRINT TEST 3 TIMES
  4 PRINT TEST CONTINUOUSLY

  P3 IS THE PRINTER SELECTED
  TEST EXECUTING
```

   If you get an error while attempting or executing the test, the words *Printer Error* and the error code number appear on the last line of the display screen. Refer to the *IBM 5256 Printer Operator's Guide*, GA21-9260, for the meaning of the error code. If you can recover from the error, proceed to step 9. If you cannot recover from the error, press the C key and then the Enter/Rec Adv key to terminate the job.

9.   When the test is complete, you will get the following message.

```
MATRIX PRINTER VERIFICATION                                    DISPLAY X1

    1 SELECT OPTION

    C RETURN TO PRIME OPTION MENU
    1 PRINT TEST 1 TIME
    2 PRINT TEST 2 TIMES
    3 PRINT TEST 5 TIMES
    4 PRINT TEST CONTINUOUSLY

    P3 IS THE PRINTER SELECTED
    TEST COMPLETE
```

Press the C key and then the Enter/Rec Adv key to return to the Prime Option
Menu. Then press the C and Enter/Rec Adv keys again to terminate the job.

address switches: Switches on the access panel of a work station that has a Cable Thru feature. These switches are set to the assigned work station address.

blank character: A character that does not display but occupies a position on the display screen.

character location: A location on the display screen at which one character can be displayed.

command: An instruction that directs the system to perform an operation.

command function keys: The 14 keys in the top row of the display station keyboard that are used with the Cmd key to request functions of program products and user programs.

controller: The 5251 Model 2 or 12. A device used to coordinate and control operations of one or more attached work stations and to synchronize their operation with that of the system.

cursor: A movable marker on the screen that may appear as an underscore or as a rectangular block. The cursor indicates where the next character entered from the keyboard will appear.

display field: See *field*.

display screen: An electronic vacuum tube, similar to a TV display tube, used to display characters.

display station: An input/output device containing a display screen and an attached keyboard.

display station operator: A person who uses the keyboard to perform operations at a display station.

display system: A family of display stations and printers that are attached to a system.

field: One or more consecutive positions on the display screen set up for a specific type of data.

formatted display: A display screen with fields established for specific information.

free key mode: An operating mode that allows the entering of data without control by a system program (unformatted).

function control keys: Keys that are used to insert, delete, or move data, and to position the cursor.

home position: The first input position of the first input field.

host system: The controlling or highest level system in a data communications configuration.

image: The characters or attributes displayed on a display screen.

input field: An area on the display in which an operator enters data. Input fields are blank on the display and can be preceded by a prompt.

keyboard buzzer: A short buzzing sound, controlled by the system, used to remind or warn the operator of a certain condition.

null: A blank that is displayed as the result of zeros occupying character positions in the buffer.

power cord: A cord that plugs into a wall outlet supplying electrical power.

printer: A device that provides printed output.

program: A computer program written to perform a specific job; for example, order entry or payroll. The program is stored in the system and can be accessed by the display station using the Cmd key procedure.

screen: See *display screen*.

system: The main computer and the programming necessary to execute customer jobs. The system can have numerous display stations or printers attached.

system cable: A cable that carries commands and data between the system and the display stations or printers.
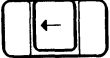
system console: An I/O device (such as a display station) designed to actuate certain system functions, and control and monitor system operation, in addition to functioning as an I/O device.
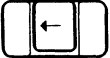
system operator: A person who uses a display station that is designated as the system console, to activate certain system functions, and control and monitor system operation.

typamatic keys: Keyboard keys that repeat their function when pressed and held down.
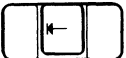
unformatted display: See *free key mode.*

unit: One of the three major assemblies that make up the 5291 (display unit, lower unit, and keyboard unit).

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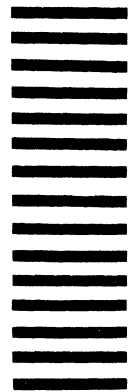
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