

**IBM System/3
Model 10 Disk System
Communications Control Program
Terminal Operator's Guide**

**Feature Code 6033
Program Number 5702-SC1**

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First Edition (June 1973)

Changes are periodically made to the information herein; before using this publication in connection with the operation of IBM Systems, refer to the latest IBM System/3 Newsletter, GN20-2228, for the editions that are applicable and current.

The Communications Control Program feature will operate with version 08, modification 00 of the IBM System/3 Model 10 Disk System, Program Number 5702-SC1, and with all subsequent versions and modifications until otherwise indicated.

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Preface

This publication contains information about using the IBM System/3 Model 10 Disk System Communications Control Program (CCP) from a terminal. You should already be familiar with the operating procedures and terminology of the terminal you will be operating.

Terminals are classified into two types; command and data. **Command terminals** are capable of entering CCP commands, receiving messages from CCP, and requesting application programs. Command terminals can also send and receive data under control of an application program.

Data terminals are capable of only sending or only receiving data under control of an application program. This manual is principally directed to the operator of a command terminal: it describes the CCP commands, messages received, and online test procedures. Data terminal operators can use this manual for the operating procedures described and as a reference to the online test procedures.

A glossary is provided at the back of this manual to define the important terms.

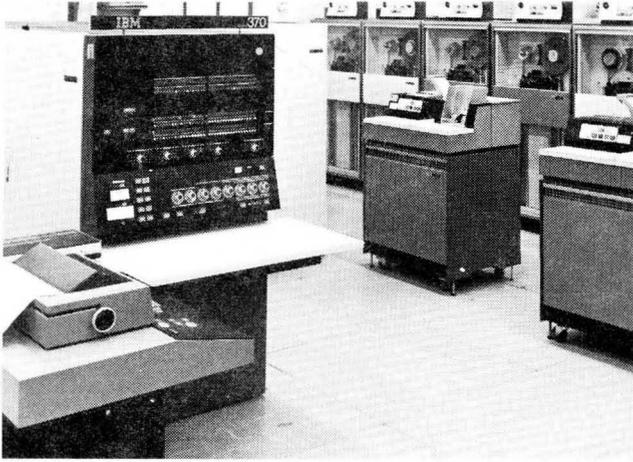
Related Publications

The following publications contain additional information about the CCP:

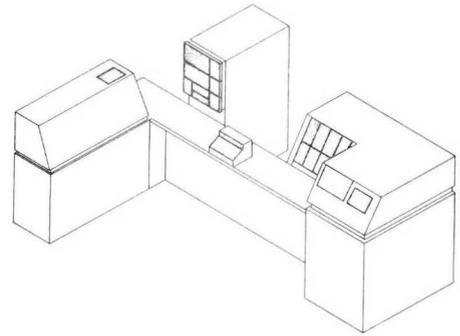
- *IBM System/3 Model 10 Disk System Communications Control Program General Information Manual, GC21-7578*
- *IBM System/3 Model 10 Disk System Communications Control Program System Reference, GC21-7588*
- *IBM System/3 Model 10 Disk System Communications Control Program Programmer's Reference, GC21-7579*
- *IBM System/3 Model 10 Disk System Communications Control Program System Operator's Guide, GC21-7581*

Contents

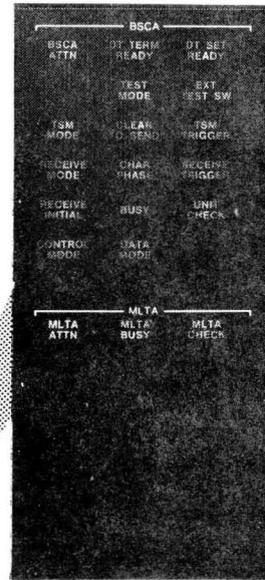
HOW TO USE THIS MANUAL	1	File Command	22
INTRODUCTION	3	File Reference Names	22
WHAT YOU MUST KNOW TO USE CCP	5	Associating File Names	22
How to Operate Your Terminal	5	Cancelling A File Name Association	23
IBM 1050 Data Communication System	6	Cancelling All File Name Associations	23
IBM 2740 Communication Terminal	7	Queue Command	24
IBM 2741 Communication Terminal	9	Unavailable Resources	24
IBM Communicating Magnetic Card Selectric Typewriter (CMCST)	10	Entering The Queue Command	24
IBM 3270 Information Display System	11	No-Queue Command	24
IBM 3735 Programmable Terminal	12	Data Mode Escape	25
Your Work Schedule	13	Run Command	25
Current System Information	13	Release Command	26
Application Program Information	14	Summary and Sequence of the CCP Commands	27
USING THE CCP FROM A TERMINAL	15	MESSAGES RECEIVED AT YOUR TERMINAL	29
How to Enter a CCP Command	15	SAMPLE TERMINAL SESSION	51
CCP Commands for the Terminal Operator	15	TERMINAL TEST PROCEDURES	57
Sign-On Command	17	Test Procedure for the 1050, 2740/2741, and CMCST Terminals	57
Your Terminal and Security	18	Test Request Errors	59
Program Request	18	Test for 3270	59
Sign-Off Command	19	Test Types	60
Message Command	20	Test for 3735	61
Name Command	20	APPENDIX A. GLOSSARY	63
Terminal Names	21		
Specifying Your Terminal's Name	21		
Resetting Your Terminal's Name	22		



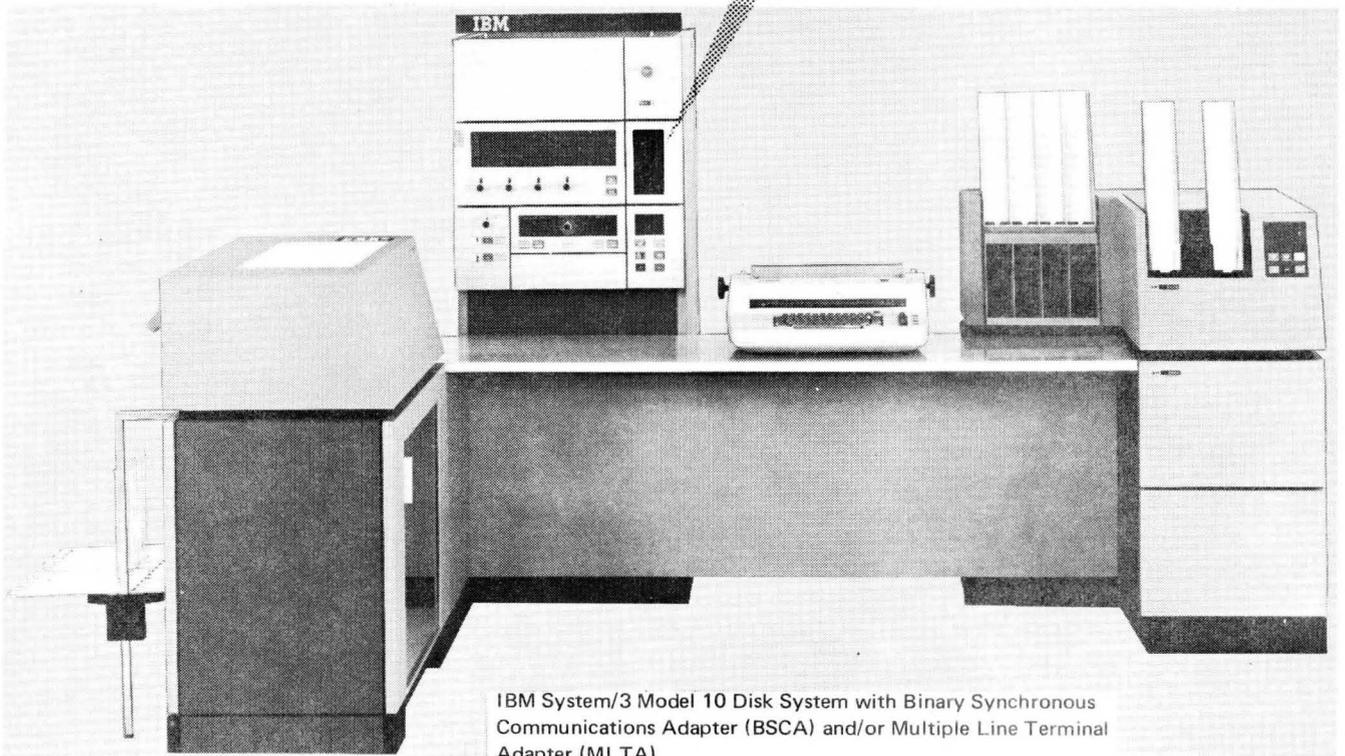
IBM System/370 (via BSCA)



Remote IBM System/3 (via BSCA)



BSCA/MLTA Panel



IBM System/3 Model 10 Disk System with Binary Synchronous Communications Adapter (BSCA) and/or Multiple Line Terminal Adapter (MLTA)

This manual contains an introduction, examples, and reference information. Scan the entire manual to familiarize yourself with the operating procedures when using a terminal operating under control of the Communications Control Program (CCP).

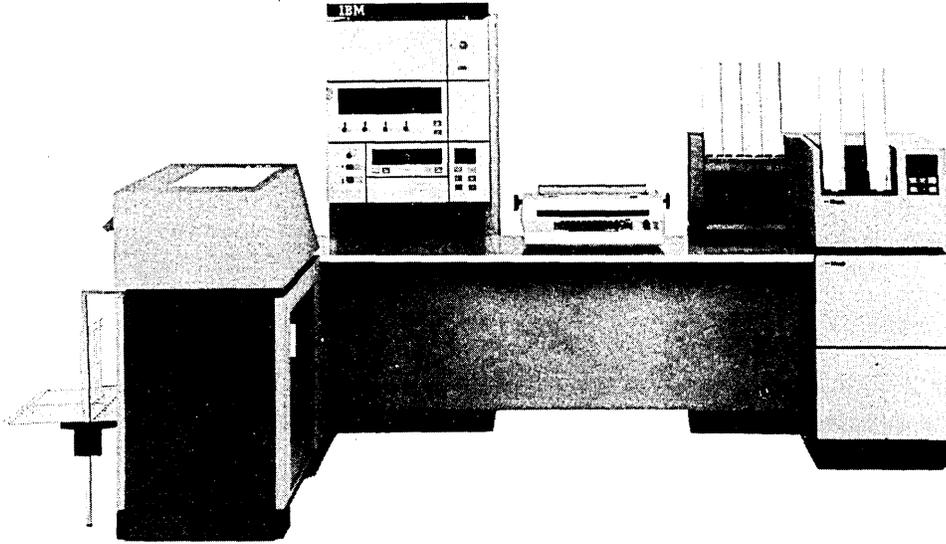
The introductory material tells you what you should know to use CCP. This includes such information as work schedules, system information, and application program information. The operating manuals for each terminal supported by CCP are also listed.

Example work sessions include varying levels of complexity to help you understand CCP operations. A sample sheet showing the steps taken to process an application program follows. Here, you can insert your own document showing the steps to follow while operating the terminal. Doing this will provide you with all the instructions you will require to do your work.

The reference type information includes detailed descriptions of the commands. A sequence and summary chart is included following the command descriptions. This chart is a fold-out; use it to see how all the command information fits together.

Messages and terminal test procedures are also given. Follow the procedures given if you are encountering hardware problems with your terminal.

CCP is the Communications Control Program for the IBM System/3 Model 10 Disk System.



IBM System/3 Model 10 Disk System

The Communications Control Program lets you use the facilities of System/3 via terminals. A terminal is a device that is capable of sending and receiving information over a communication channel such as a telephone line. The terminal may be in the same room as the computer, in the same building, or in another city. The computer can process work from many terminals because of the speed at which it operates. Therefore, performing work on your terminal may appear as though you have exclusive use of the computer.

The work you perform at a terminal is processed by computer programs that may be unique to your installation. These are *application* programs which were designed to accept the kind of data you will present to them, and to send back to you the kind of information required for your work.

CCP provides the computer control necessary to let you call on those programs, and to permit those programs to communicate with your terminal. In order to call upon application programs, you must communicate with CCP by a set of commands. A *command* is a group of characters, entered from your terminal, by which you order CCP to perform some action. The command you will enter most often is one which tells CCP to start running a certain application program for you. But there are other commands as well, and they too are described in this manual.

CCP responds to your commands by either performing the action you ordered, or telling you why it could not perform the action. The messages sent to you by CCP are defined in this manual. When you have called upon an application program and CCP starts that program for you, that program may send you messages; these messages are unique to that program and can be explained to you by your location's data processing personnel.

Read this entire manual first to familiarize yourself with terminal operation using CCP. Then, after you are experienced in using your terminal with CCP, you may need this manual only for reference purposes.

A *terminal session* is the duration of time from when you sign-on (start) until you sign-off (stop) a terminal. Signing-on and signing-off a terminal is how you tell CCP that you are ready to begin or end work at your terminal. Before you begin a terminal session, you must know:

Terminal session

- How to operate your terminal
- Your work schedule
- Current system information
- Application program information
- How to use the CCP commands

Checklist

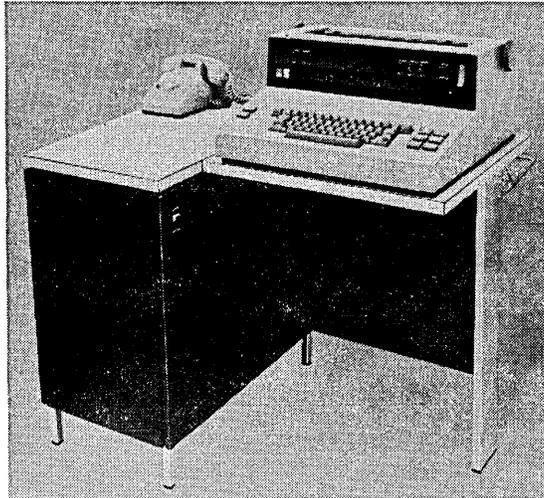
HOW TO OPERATE YOUR TERMINAL

The general procedure for beginning operations on most terminals is:

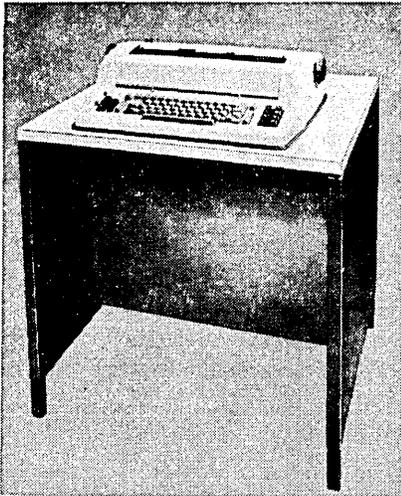
1. Turn power on
2. Place terminal in communicate mode
3. Enter data or CCP commands
4. Send data or CCP commands to the system

Operating procedures

In order to use CCP, you must first be familiar with the operating procedures for your terminal. The following pictures show the terminals that are supported by CCP. If you are not familiar with the operating procedures for your terminal, locate it in the set of terminals and read the corresponding reference manual for a description of its operating procedures. Also shown with each terminal type are any special operating considerations for using it with the CCP.

IBM 1050 Data Communication System

- *IBM 1050 Operator's Guide, GA24-3125*
- It is most efficient to end each input from your terminal by pressing carriage return, using the automatic EOB feature, rather than let output sent to your terminal cause the carriage return.
- If the automatic EOB feature is not used, it is still more efficient to press carriage return before EOB rather than let the carriage return occur at the beginning of output to your terminal.



- *IBM 2740/2741 Communications Terminal – Operator’s Guide, GA27-3001*

2740 Model 1 with Station Control And Checking

- Except where your procedures indicate otherwise, use the EOB key rather than the EOT key at the end of each input from your terminal.
- It is somewhat more efficient in timing to end each input from your terminal by pressing carriage return before EOB, than to let the carriage return occur at the beginning of output to your terminal.

2740 Model 1 with Automatic EOB Feature

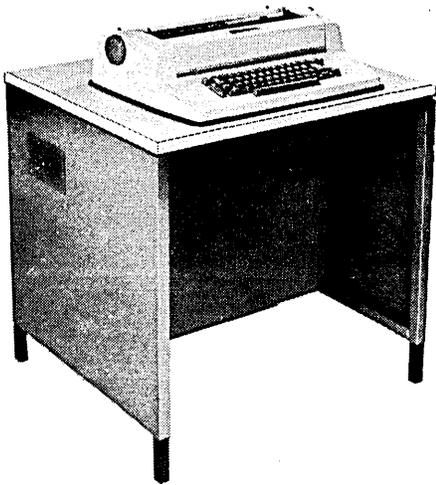
- It is most efficient in timing to end each input by pressing carriage return, which causes EOB to be automatically sent as well.

2740 Model 2

- Do not key in data unless your terminal is being polled (STANDBY and TRANSMIT lights flashing alternately).

2740 Model 2 with Buffered Receive Feature

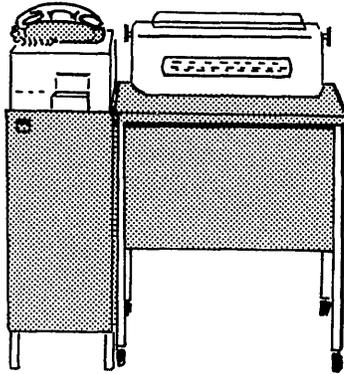
- The attention light and alarm turn on when your terminal is in LOCAL mode, when it is out of paper, or when CCP or an application program is attempting to send you information while your terminal is busy. Perform one of the following if a program is attempting to send information to your terminal:
 - Press the carriage return key and then the BID key if you were entering data (ENTER light on) because your message is not and cannot be sent to CCP. The message that CCP is attempting to send is printed. Reenter your data after the CCP message is printed.
 - Wait until CCP finishes sending its message if you just finished entering data and pressed BID (BID light on). The data you attempted to send was lost. Reenter your data after the CCP message is printed.
 - Do nothing if you are not entering data. CCP is continuing to send information to your terminal.



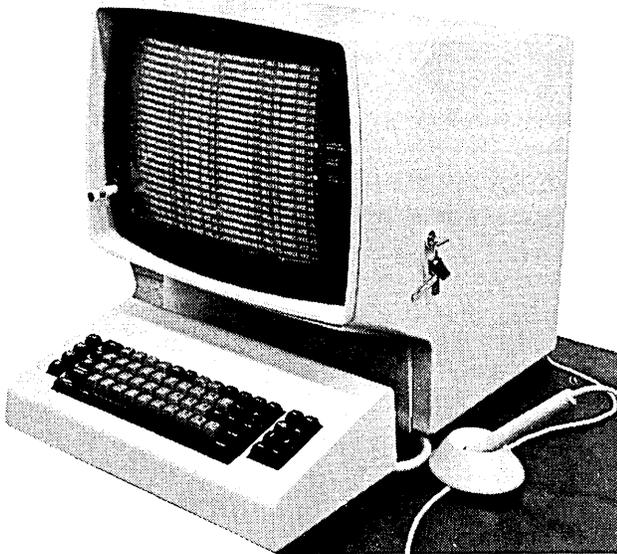
- *IBM 2740/2741 Communications Terminal – Operator's Guide, GA27-3001.*
- Pressing the ATTN key while data is being sent to your terminal causes the output in process at the time to be terminated. This is not recommended because it could cause problems to the program you are communicating with if it is not prepared for this action.
- From the time your keyboard unlocks until you have pressed carriage return, no output can be sent to your terminal. If you are operating the 2741 as a command terminal, and you are not presently communicating with a program but are expecting a message from the system operator, you should occasionally press carriage return to permit output to reach your terminal. Though this will yield an error message E01 INVALID SYNTAX, it is the only way to permit such output to reach your terminal. After all messages are printed on your terminal, you are again allowed to enter a command.

CMCST

IBM Communicating Magnetic Card Selectric Typewriter (CMCST)

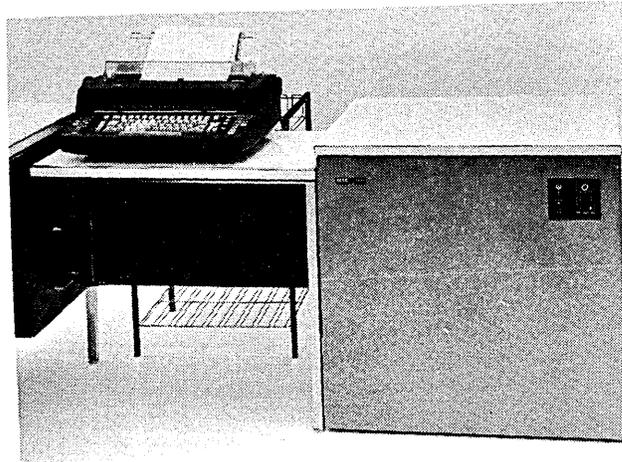


- *IBM Communicating Magnetic Card User's Guide, G543-0609*



- *IBM 3270 System Operator's Guide, GA27-2742*
- To issue a request for online test, you must press the CLEAR key followed by the RESET key so that the screen is completely blank when entering the test request parameters.
- When you are communicating with CCP, the first 80 positions are used for your input to CCP. The next 400 positions are used to return up to five CCP messages.
- To initiate a session or to interrupt communication with an application program, the first 80 positions on the screen should be blank. If there are fields currently defined in these first 80 positions, use the CLEAR key to clear the screen.
- When the CLEAR key is used, wait for CCP instructions to appear on the screen before entering your command or data mode escape characters (see *Data Mode Escape*).
- When communicating with CCP, always wait for CCP to turn off the input inhibited light. CCP turns off input inhibited when it has recognized your input and is ready for your next input.

IBM 3735 Programmable Terminal



- *IBM 3735 Terminal Operator, G320-7011*
- Commands cannot be entered from this terminal

YOUR WORK SCHEDULE

An important consideration is knowing your work schedule. You must learn the answers to the following questions before using your terminal.

- Are certain jobs to be run each day?
- Must certain jobs be run at special times of the day?
- Must jobs be done in any particular order?
- Is the use of the terminal limited to certain hours or a certain length of time?

Schedules

CURRENT SYSTEM INFORMATION

This type of information is determined by the data processing personnel. They must tell you if it is applicable to your terminal. You must know the following information before using your terminal.

- Is a *password* required to use the terminal? Password checking allows only authorized personnel to use a terminal. If it is required, you must know the current password and enter it when you sign-on to start a terminal session (see *Sign-on Command*). If you cannot enter it correctly, CCP will not accept the commands you must use to perform your work.
- Does your installation permit a terminal operator to interrupt the processing of an application program he requested? Such an interruption might be made in order to send a message to the system operator, or to release the terminal from control of the program. If it is permitted, you must know the six characters you would enter at your terminal to interrupt a program. These are called the data mode escape characters (see *Data Mode Escape*).
- Is there a procedure to be followed when leaving a terminal? Must you sign-off whenever you leave the area of the terminal?

System information

APPLICATION PROGRAM INFORMATION

Program information

You may use different application programs to do different jobs. Examples are order entry and inquiry against inventory. During your work session, you communicate with these programs through the CCP. You must know what type of information the application program you want to use requires. The following example shows information you might need before you communicate with an application program. Items 2 and 3 in the example are described in *Using The CCP From A Terminal*. Use this example only as a guide; it can be expanded based on the needs of your installation.

Application	<u>Parts Inquiry</u>	Date	<u>June 1, 1973</u>
Program Name	<u>INVTRY</u>	Number	<u>1234</u>
		Programmer	<u>John Doe</u>
1.	Programs function <u>Reads a part number. You key in part number and it responds with on hand quantity.</u>		
2.	Queue program request	Yes	<input checked="" type="radio"/> No
3.	Any /FILE commands	Yes	<input checked="" type="radio"/> No
		/FILE	_____, _____
4.	Any input data to be included with the program request <u>Include part number with program request.</u>		
5.	Any exceptional conditions	Yes	<input checked="" type="radio"/> No
	Send message to system operator	_____	
	Error recovery	_____	
	Data mode escape	_____	
	/NAME	_____	

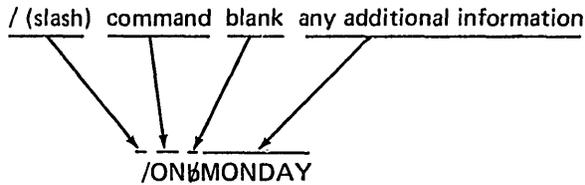
HOW TO ENTER A CCP COMMAND

Some special considerations may be required when using your terminal with the CCP. See *How to Operate Your Terminal* for a listing of the considerations.

Special considerations

Commands can be entered in upper or lower case. The command must begin in data position 1, and the command must be separated from any additional information by one or more blanks. The space bar is used to enter a blank (Ø=blank). Enter the command using this format.

Entering commands



Example of sign-on

The preceding example shows how a Sign-on command with a password is entered. CCP responds by telling you whether or not the command was accepted. When accepted, CCP sends the message A01 SIGNED ON--PROCEED. If your command was not accepted, a message is sent telling you why it was not.

CCP COMMANDS FOR THE TERMINAL OPERATOR

The following list of commands is used to communicate with CCP. Each command is described in more detail.

Command/Operation	Description
/ON	Sign-on to start a terminal session
/ON ^b password	Sign-on using a password for security purposes
program-name	Request an application program with no data
program-name ^b input-data	Request an application program with data
/OFF	End current work session using installation default
/OFF ^b HOLD	End current work session and return the terminal to pre-sign-on status
/OFF ^b DROP	End current work session and disconnect terminal from CCP
/MSG ^b message-text	Send a message to the system operator
/NAME ^b terminal-symbolic-name	Specify the <i>doing business as name</i> of your terminal
/NAME	Reset your terminal name to its normal name
/FILE ^b reference-name,actual-name	Associate the name used for a file by a program with an actual file-name
/FILE ^b reference-name	Cancel that particular reference name association
/FILE	Cancel all reference-name,actual-name associations
/Q	Indicate willingness to wait for a program
/NOQ	Indicate unwillingness to wait for a program when resources are unavailable
data-mode-escape-characters	Interrupt an application program to communicate with CCP
/RUN	Resume communication with the program after data mode escape
/RELEASE	End your communication with a program after data mode escape

Note: Commands begin in position 1. At least one blank must separate the command from any additional information.

* Only one blank separates the program name from the input data.

SIGN-ON COMMAND

Enter this command when you are ready to begin a terminal session on your terminal. Until you sign-on, CCP will not accept from your terminal the commands you must issue in order to perform your work. The only commands that are accepted are the Sign-on command itself, and the Message command by which you can communicate with the system operator.

After you have successfully signed-on, you may enter the following commands as often as you need to.

- Program request
- Name command (/NAME)
- Queue command(/Q)
- No-queue command(/NOQ)
- File command(/FILE)
- Message command(/MSG)

When you have completed your terminal session, you can sign-off your terminal with the Sign-off (/OFF) command.

The format of the Sign-on command depends on whether sign-on security checking is used by your installation. Your installation management can tell you which of the formats to use. The possible formats are:

Command		Required Information	Notes
/ON	b	password	1
/ON	b	none	2

1 Your installation makes use of sign-on security checking. Enter the characters /ON along with the correct password (see *How To Enter A CCP Command* for an example). Your installation management can tell you the password you must use. If you omit or incorrectly enter the password, the sign-on attempt is rejected by the CCP. You can reenter this command using the correct password.

2 Your installation does not make use of sign-on security checking. Enter just the characters /ON with no additional information.

After correctly signing-on, your terminal remains signed-on until you sign-off, or until one of two exceptional conditions occurs:

- The system operator places your terminal *offline*, that is, cuts off its communication with CCP. The system operator might do this, for example, if your terminal is encountering severe hardware problems.
- You are communicating with CCP via a switched telephone line and that line becomes disconnected.

Sign-on command

Commands you can enter after signing-on

Passwords

Signed-on until . . .

Your Terminal and Security

Security

The system operator is informed by CCP of any sign-on attempt at your terminal, and if password checking is used by your installation, whether or not the password was entered correctly.

Once you successfully sign-on, however, the CCP accepts other commands entered at your terminal as being issued by someone authorized to use the system. CCP accepts these commands until the terminal is signed-off. When the Sign-off command is issued, CCP assumes the authorized person has left the terminal, and will not accept further commands until the terminal is properly signed-on again.

Do not leave a record of the password at your terminal

If your installation is using sign-on security checking to prevent unauthorized access to the system, your management may instruct you not to leave your terminal unattended without signing it off. In this case you should also consider that if your terminal prints on continuous paper, your earlier Sign-on command with the proper password was printed at your terminal. Leaving that information on your terminal could permit someone else to gain access to the system.

You may request application programs after signing-on

PROGRAM REQUEST

Once you have signed-on your terminal, you can request application programs. The programs you can request, the names by which you request them, and the data each program expects you to provide, are determined by your installation.

When you request an application program, the system may take one of the following six actions:

What happens after a program is requested

1. It may start the program for you immediately.
2. It may reject your request because of an error on your part (for example, you might have keyed the program name incorrectly).
3. It may reject your request because the system operator has started to shutdown the system, or has temporarily prevented the system from accepting any commands from terminal operators.
4. It may reject your request because some resource that would be required by the program may not be available during this entire run of the system (for example, a disk file used by the program is not available today; or the program requires the use of some other command terminal, but that terminal is signed-on and performing its own work).
5. It may reject your request because some resource that would be required by the program is *temporarily* unavailable. This can occur when other terminal operators have requested programs before you. Perhaps there is not enough main storage space left in the system to run your program now; or a disk file your program needs is being tied up by another program that is running now; or there are programs requested by other operators which are still waiting to start.

When the system is *temporarily* unable to run your program, it will reject your program request unless you have told it to do otherwise. You can instruct the system to place your program request on a waiting list by entering a Queue command at your terminal (see *Queue Command* for a complete description).

- If resources are temporarily unavailable, and you have specified that you will wait for your request to be satisfied, the system will accept your request and suspend use of your terminal until the program you requested can be started.

The format of the program request is:

Program Request		Optional Information
program-name	␣	input-data

Your operating procedures for the program will indicate the name of the program, and whether or not input data is to be entered along with the name. If input data is to be entered, you should enter it after a *single* blank following the program name; any blanks beyond the first blank are considered by the program to be part of the input data. The format and content of the data to be entered is determined by your operating procedures.

Program request — one blank

SIGN-OFF COMMAND

Enter this command when you have completed the required work for a session. It causes CCP to reject commands from this terminal until it is signed-on again, and causes any File, Name, or Queue commands that were in effect for the current session to be cancelled. You can enter this command any time after you have signed-on the terminal and while you are not running an application program.

Sign-off command

There are two reasons why it may be very important to sign-off your terminal whenever you complete a work session:

- If your installation uses sign-on security checking to control access to the system, leaving your terminal without signing it off could permit unauthorized persons to use the system.
- If your installation has programs that need to communicate with your terminal when requested by the operator of another terminal, CCP will not consider your terminal available to those programs if it is still signed-on.

It's important to sign-off

When you sign-off your terminal, you can specify an option which determines your terminal's status after the sign-off. The three formats of the Sign-off command are:

Command		Optional Information	Notes
/OFF	␣	HOLD	1
/OFF	␣	DROP	2
/OFF	␣	blank	3

- The HOLD option instructs CCP to hold the connection with your terminal, so that you can sign-on your terminal again and begin another work session at any time. If your terminal is connected to the system by a switched line, the line is *not* disconnected.

HOLD option

DROP option

2 The DROP option instructs CCP to drop the connection with your terminal.

Switched line

- If your terminal is connected to the system by a switched line, the line is disconnected. You can sign-on again to begin another work session only after dialing the system to reestablish the connection.

Non-switched line

- If your terminal is on a non-switched line, the DROP option instructs CCP to place your terminal offline. When a terminal is offline, the system ignores it completely. It cannot even send a message to the system to sign-on again. You may wish to take this option when leaving your terminal, perhaps at the end of the day, if that terminal is not to be used again by anyone else.

Installation default

3 You may also sign-off without specifying an option. Your installation management will have defined the option (HOLD or DROP) that the system should take when you sign-off without specifying the option yourself.

Whenever you sign-off, the CCP informs the system operator of your action. It also informs him of the option taken (HOLD or DROP), whether or not you specified it. If your terminal was signed-off DROP and is connected by a non-switched line, the system operator can at any time place it back *online*, that is, change its status so that it can be signed-on again and used for another work session.

MESSAGE COMMAND

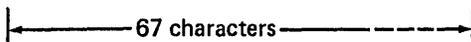
Message command

Use this command when you find it necessary to communicate with the system operator. This command causes your message text to be sent to the system operator. CCP informs him that the message came from your terminal.

When to send a message

You can send a message any time that your terminal is not running an application program. This command may even be issued before signing-on your terminal.

The format of the Message command is:

Command		Required Information
/MSG	b	message-text 

The maximum length of the message text is defined by your installation and can be up to a maximum of 67 characters. The first character of the message text is the first non-blank character following /MSG.

NAME COMMAND

Name command

Use this command only when it is necessary to specify the name of your terminal for programs you will request.

Terminal Names

Every terminal operating in a CCP system is known to the CCP system, and to each program it communicates with, by a *terminal name*. Normally you are not concerned with that name. However, for security reasons, there may be certain application programs in your system that will run only when requested by a terminal which has some specific name. The program determines, from the terminal name, whether that terminal is authorized to use the program.

When you sign-on a terminal, that terminal is known by a standard name assigned to it by your installation management. If you sign-on the terminal you regularly use, you may never need to enter a Name command. The programs you will request are normally set up to run when requested from that terminal. Should a Name command be required, however, your procedures will indicate the requirement and tell you what name to specify for the terminal.

An example of when you may find it necessary to enter a Name command is the following. Suppose you are asked to perform your work on a terminal other than the one you normally use. That terminal is known to the system by a name different from your regular terminal's name. Certain programs you must request might not be prepared to run when requested from that terminal. Your procedures, or a supervisor, may tell you to enter a Name command after signing-on, perhaps to specify the name of your regular terminal as that terminal's name. When the Name command is accepted by CCP, the name you specified becomes the *doing business as name* of your terminal. The command is accepted only if your terminal is authorized to operate under that name. Your installation management has defined not only the standard name of each terminal, but also any alternate name that terminal may *do business as*.

Specifying Your Terminal's Name

To specify the name your terminal should be known by, enter a command of the following format:

Command		Additional Information
/NAME	␣	terminal-name

When the command is accepted, the terminal-name you entered becomes the *doing business as name* of your terminal, and any program you request is informed of that name. That name remains in effect until the terminal is signed-off or:

- You enter another Name command specifying a different terminal-name.
- You enter a Name command without specifying a terminal-name. This resets the name of the terminal to its standard name.

If the command is rejected by CCP, you should first communicate with the system operator. Use a Message command to inform him that a name you were told to use for your terminal was not accepted by CCP. The system operator has the power to reassign the alternate names each terminal may use. If your terminal should be allowed to operate under the name you specified, the system operator can make that name available to your terminal. You can then reenter the Name command, and it will be accepted by CCP.

Terminal names

Example of using the Name command

Resetting Your Terminal's Name

To reset the name of your terminal to its standard name, enter a command of the following format:

Command	Additional Information
/NAME	none

A Name command of this form is always accepted by CCP.

FILE COMMAND

File command

Enter this command only when you must specify the disk data file that should be used by a program you will request.

File Reference Names

File reference names

The programs you request typically reference data files stored on magnetic disk. Programs generally reference specific disk data files, and do not need an indication of which files to use.

Example of using the File command

However, some programs are written to access information from any one of several similar disk files, and they permit you to specify the file they should access. Suppose, for example, you work in a school district office. The system you use has a separate file for each school in the district. Each file contains information about the students in that school. A certain program you run from your terminal accesses one of those files in order to list the students who are absent from school today. Since the program can access any one of the files, it expects you to have specified which school's file it should use. If you have not specified the file, the program cannot know what information to access, and CCP rejects your request for that program. In this example, there are several actual files the program could reference, and it requires you to specify which one it should reference. You specify this with a File command, in which you associate a file reference name with the name of the actual file to be used. The file name is a name by which the program refers generally to whatever file you will specify. Your procedures will tell you the file reference name, the names of the actual files that may be chosen, and when you should specify one actual file as opposed to another.

Associating File Names

You specify which actual file to use, before requesting a program that needs this information, by associating a file reference name with the name of an actual file. You use a command of this format:

Command		Required Information
/FILE	b	reference-name,actual-name

When the command is correctly entered, it remains in effect not only for the next program requested, but for other programs as well which require a file specification and which make use of the same file reference name. The file name association is cancelled only when the terminal is signed-off, or when:

- Another File command is entered associating the same reference name with the name of a different actual file.
- A File command of the form /FILE reference-name is entered using the same file-reference name (see *Cancelling A File Name Association*).
- A File command of the form /FILE is entered (see *Cancelling All File Name Associations*).

Because there may be a number of programs to run which need a file specification, and because each of those programs might use a different file reference name, multiple File commands of this form may be entered. That is, a terminal can have multiple file name associations in effect at the same time, each one associating a different file reference name with an appropriate actual file.

Cancelling A File Name Association

You can cause a file reference name to be no longer associated with any actual file by entering a command of the following format:

Cancel one file

Command		Additional Information
/FILE	∅	reference-name

A File command of this form causes the association of this file reference name with any actual file to be cancelled. When this form of the File command has been entered, the file reference name used no longer refers to any specific file.

Cancelling All File Name Associations

You can cause all file reference names you have previously associated with actual files to be no longer associated with an actual file by entering a command of the following format:

Cancel File command

Command	Additional Information
/FILE	none

When this form of the File command has been entered, no file reference name is any longer associated with an actual file.

QUEUE COMMAND

Queue command

Use this command to indicate that you are willing to wait for programs to start if they cannot start immediately.

Unavailable Resources

Unavailable resources

When you request a program, and that program cannot start immediately because resources it needs are being used by other programs, CCP will normally reject your program request. Certain resources may be completely unavailable; and, if your program needs one of these, CCP will *always* reject your request. But often, resources needed by the program you request may be only temporarily unavailable, and in this case CCP will reject your request *unless* you have previously entered a Queue command.

When you enter this command, you are indicating that if a program you request cannot start because resources are only temporarily unavailable to it, you wish to wait for those resources to become available so that your program can run. If the program does not have to wait for resources, it starts immediately. If it must wait for resources, CCP does not communicate with your terminal again until the program begins. You cannot enter other commands, even to send a message to the system operator, while you are waiting. Your next communication with the system occurs when the program you requested starts.

Depending on how long programs requested by other operators tie up resources, it may or may not be wise to use the Queue command. Your procedures will indicate whether the command should be used.

Entering The Queue Command

To indicate you are willing to wait for programs to start when resources are temporarily unavailable, enter a command of the following format:

Command	Additional Information
/Q	none

Until you have entered this command, CCP rejects a program request if resources it requires are temporarily not available. Once you have entered this command, it remains in effect until the terminal is signed-off, or until a No-queue command is entered.

NO-QUEUE COMMAND

No-queue command

Use this command to cancel the effect of a Queue command. If you have previously entered a Queue command, but you are no longer willing to wait for programs to start when resources are temporarily unavailable, you can cancel the effect of the Queue command by entering a command of the following format:

Command	Additional Information
/NOQ	none

When you have entered this command, any program request you make will be rejected if resources are even temporarily unavailable.

DATA MODE ESCAPE

Your installation may permit a terminal operator who requested an application program to interrupt the processing of that program. This capability is called data mode escape. Your installation management can tell you if the system you use supports this capability. Use data mode escape by entering six characters that are defined in your operating instructions. Use these characters when you find it necessary to interrupt the processing of an application program so you can communicate with the CCP. Data mode escape can only be performed when your terminal is communicating with an application program that it requested.

The format of the data mode escape command is:

six-installation-defined-characters

When CCP has started a program you requested, it monitors every input to that program from your terminal. On every input you send, CCP checks the first six characters to see if they are the data mode escape characters. If they are not, your data is passed directly to the application program. If they are, CCP informs you that your terminal has escaped control of the application program. Then, you can enter a command to do the following (see special operating considerations for the *IBM 3270 Information Display System*):

- Optionally, send one or more messages to the system operator (/MSG), then either
- End your terminal's communication with a program (/RELEASE), or
- Resume your terminal's communication with the interrupted application program (/RUN).

Note: If your terminal is a 1050, 2741, or 2740 Model 1, you must not use the BACKSPACE key when entering these six characters. If you use backspace, CCP will not recognize your input as the data mode escape characters.

RUN COMMAND

Use this command when you now want to resume running under control of the application program you interrupted by a data mode escape.

The format of the Run command is:

Command	Additional Information
/RUN	none

CCP responds by placing your terminal once again under control of the application program you interrupted. The next input from your terminal will be data to that application program.

Data mode escape

Commands you can enter after data mode escape

Run command

RELEASE COMMAND

Release command

Use this command when you now want to release your terminal from the application program you interrupted by a data mode escape so that you can again enter commands and make other program requests.

The format of the Release command is:

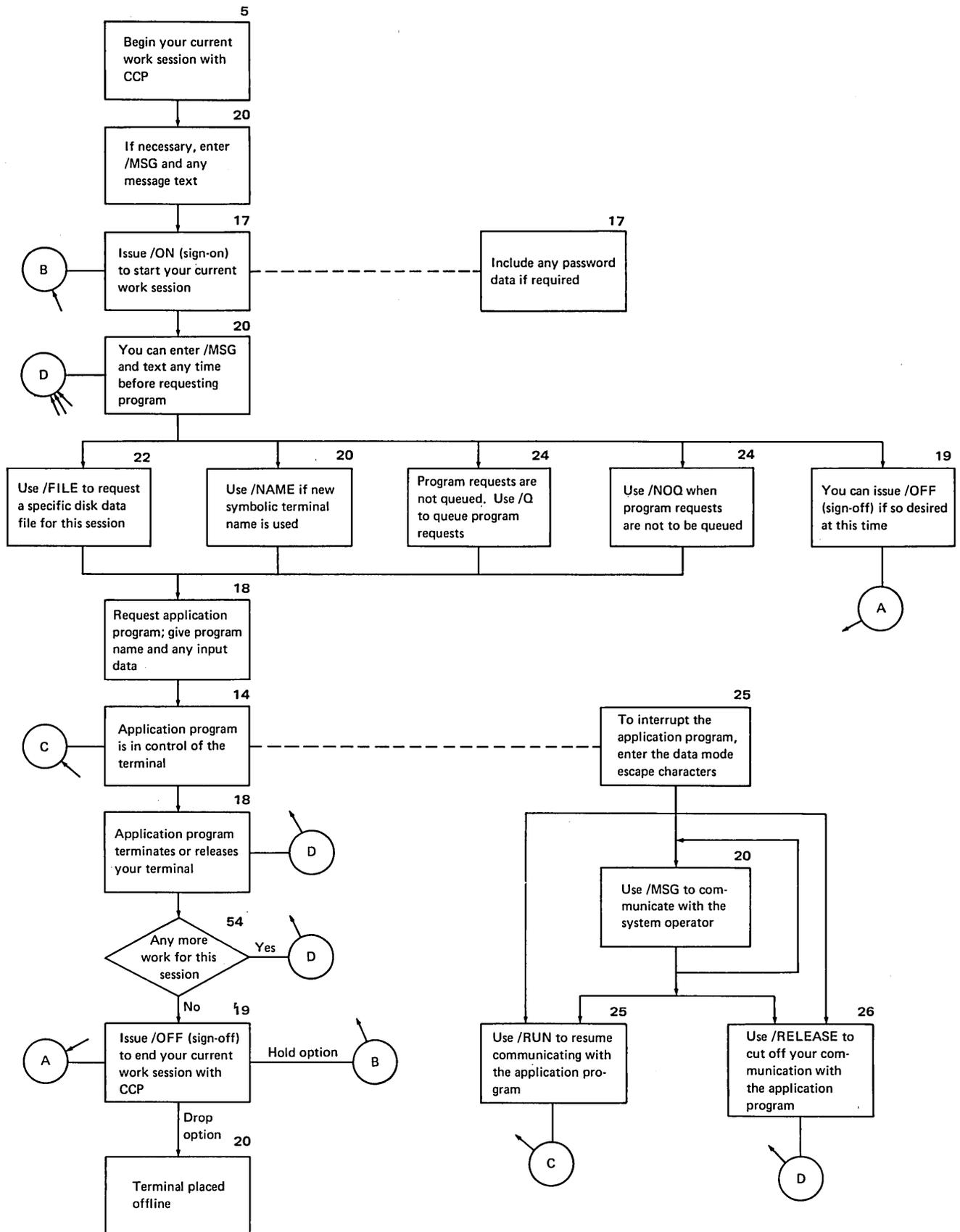
Command	Additional Information
/RELEASE	none

CCP responds by:

- Releasing your terminal from any control by the application program you were running.
- Placing your terminal in a status in which it can again issue normal commands and program requests.

SUMMARY AND SEQUENCE OF THE CCP COMMANDS

This illustration shows the sequences that the commands are used in relation to an application program. It is also a summary of the functions of the commands and can be used for quick references.



The numbers listed at the upper right-hand corner of the blocks are page numbers where additional information can be found.

Messages are sent to your terminal from the CCP, the system operator, or the application program. This section of the manual describes the messages that are sent from the CCP. It contains the reference identifier, the message text, the reason the message was issued, and the recovery procedure for each message if a recovery is required.

Messages

The reference identifier is used to reference the reason and recovery explained in the following pages. The messages are listed in four groups with the first character of the reference identifier indicating the group. Messages that begin with:

- A — Indicate that the command you entered was *accepted* by the CCP.
- E — Indicate that the command or program request that you entered contained an *error* and was not accepted by the CCP.
- R — Indicate that your entry was correct but the CCP *rejected* the request because the required resources were not available.
- S — Indicate that the *system* sent an unsolicited message.

A01**A01 SIGNED ON – PROCEED**

Reason – This message is issued after you successfully sign-on your terminal. Communication is established with the CCP so that you can start your terminal work session. You can enter a program request or the Name, Queue, No-queue, File, Message, or Sign-off command. You are signed-on the terminal until you issue the sign-off command unless:

- The system operator changes the status of your terminal to offline.
- You are communicating with CCP via a switched line and that line becomes disconnected.

Recovery – None

A02**A02 MESSAGE SENT**

Reason – This message is issued in response to a Message command, when the message is sent to the system operator. Wait for a reply message if you asked a question; otherwise continue entering commands to the CCP.

Recovery – None

A03**A03 Q STATUS – PROCEED**

Reason – This message is issued in response to the Queue command. You have indicated that, if a program you request cannot be started immediately, you are willing to wait for it to start. When you request a program after having entered this command, your terminal is locked until the program starts. Queue status remains in effect until you enter the No-queue command or the Sign-off command. Continue with your terminal session.

Recovery – None

A04**A04 NOQ STATUS – PROCEED**

Reason – This message is issued in response to the No-queue command. You have indicated that, if a program you request cannot be started immediately, you are not willing to wait for it to be started and CCP is to reject your program request in this case. Continue with your terminal session.

Recovery – None

A05**A05 ACCEPTED – PROCEED**

Reason – This message is issued in response to the Name command. CCP has:

- Set the *doing business as name* of your terminal to the name you specified specified, if you entered /NAME xxxxxx.
- Reset the *doing business as name* of your terminal to the terminal's normal name if you entered /NAME with no additional information.

The name now set remains in effect until you enter another Name command, or you sign-off. Continue with your terminal session.

Recovery – None



Reason – This message is issued in response to the File command. CCP has:

- Associated the two names you entered, if your command was of the form /FILE reference-name,actual-name.
- Deleted any reference name association for the file you specified, if your command was of the form /FILE reference-name.
- Deleted all reference-name,actual-name associations, if your command was of the form /FILE.

If your command was of the form /FILE reference-name,actual-name, the name association you specified remains in effect until one of the following occurs:

- You enter another File command with the same reference name.
- You enter a File command with no names.
- Your terminal is signed-off.

Continue with your terminal session.

Recovery – None

A07 ENTER /MSG, /RELEASE, OR /RUN

Reason – This message is issued after you successfully enter the data mode escape characters. You have interrupted processing with the application program in order to communicate with the CCP.

You are now in direct communication with CCP. Optionally, you may enter:

- /MSG – To send one or more messages to the system operator.

Then you can enter either:

- /RUN – To resume your communication with the application program you were running before you entered the data mode escape characters.
- /RELEASE – To immediately end your communication with the application program you were running. You will then be able to enter any normal command to CCP.

Recovery – None

A08**A08 RELEASED – PROCEED**

Reason – This message is issued in response to the Release command. CCP has cancelled your communication with the application program. You are now free to enter commands or another program request.

Recovery – None

A09**A09 RESUME PROGRAM**

Reason – This message is issued in response to the Run command. Communication is again established with the application program. The next input from your terminal will be data to that application program.

Recovery – None

A10**A10 SIGNED OFF – [HOLD/DROP] TERMINAL**

Reason – This message is issued when you have signed-off the terminal. When you sign-off a terminal, the following actions occur:

- If the Name command was used to assign a *doing business as name*, the name of your terminal is reset to its normal name.
- If File commands were used to specify filename associations, these associations are deleted.
- If the Queue command was specified, the status is reset to no-queue.

The message indicates what sign-off option was applied. The message reads:

- SIGNED OFF – HOLD TERMINAL if either:
 1. You specified /OFF HOLD.
 2. You specified /OFF without an option, and your installation's standard sign-off option for your terminal is HOLD.
- SIGNED OFF – DROP TERMINAL if either:
 1. You specified /OFF DROP.
 2. You specified /OFF without an option, and your installation's standard sign-off option for your terminal is DROP.

See *Sign-off Command* for a description of the sign-off options and what procedures must be followed to sign-on again.

Recovery – None

A11 CLEAR

A11

Reason — You pressed the CLEAR key on your 3270 terminal, clearing the screen, in order to:

1. Enter commands.
2. Perform a data mode escape.
3. Perform a test of your terminal.

The system has recognized your action.

Recovery — If you are not communicating with an application program, you may:

- Enter a command.
- Perform a test of your terminal (see *Test For 3270* for the test procedures).

If you are communicating with an application program, you may:

- Enter the data mode escape characters.
- Perform a test of your terminal (see *Test For 3270* for the test procedures).
- Resume communication with the application program by entering a Run command.

E01 INVALID SYNTAX

E01

Reason — This message was issued in response to a command or program request. Check for the following format errors:

- Length of the command or program request was less than two characters or there is a blank in the second position.
- Command was misspelled.
- Command was not separated from the additional information by at least one blank.

This message is also issued when the CLEAR key is pressed on a non-data-mode-escape system.

Recovery — Reenter the command or program request after determining the correct format.

E02

E02 OPERAND MISSING

Reason — This message was issued in response to a command. It indicates that the command requires additional information after the command word, but you have not entered any additional information.

This message would be issued in either of the following cases:

- You entered a Sign-on command. Your installation requires that a password or other security information be included in the sign-on, but you did not include it.
- You entered a Message command without any message text.

Recovery — Reenter the command after determining what was missing.

E03

E03 ALREADY SIGNED ON – PROCEED

Reason — This message was issued in response to a Sign-on command. The message informs you that you have already signed-on and your terminal is already permitted to enter commands or program requests.

This message indicates that you have not signed-off since you last signed-on. You may have left your terminal in sign-on status when you finished your previous work session.

Recovery — Enter a command or program request to continue your work session.

E04

E04 PASSWORD ERROR

Reason — This message was issued in response to a Sign-on command because your installation requires a password or other security information to be included when you sign-on and the password you entered was incorrect.

Recovery — Perform the following:

1. Determine the correct password or other security information from your operating procedures.
2. Reenter the Sign-on command.

E05 THAT COMMAND NOT VALID NOW

E05

Reason — This message was issued in response to a Queue or No-queue command. The command could not be accepted by the CCP for one of the following reasons:

- Your terminal is not signed-on.
- Data mode escape characters have been entered, but you have not entered a Release command.

Recovery — Reenter the command after the:

- Sign-on command.
- Application program terminates.
- Release command.

E06 MESSAGE TOO LONG

E06

Reason — This message is issued in response to the MESSAGE command when the text portion of the message exceeds 67 characters (or less, if fewer than 67 characters are allowed by your installation). CCP rejected the entire message and does not print any of it on the system operator's console.

Recovery — Reenter the Message command after changing the length of the text to 67 characters or less.

E07 THAT COMMAND NOT VALID NOW

E07

Reason — This message was issued in response to the Release command. /RELEASE ends your communication with an application program. Your terminal is not now in communication with an application program. You are free to enter program requests or other commands.

Recovery — Enter another command.

E08 INVALID SIGN OFF OPTION

E08

Reason — This message was issued in response to the Sign-off command. The only additional information that you can specify with the command is HOLD or DROP. You have included additional information which is neither the word HOLD nor the word DROP.

You may have simply misspelled the option word. If not, see *Sign-off Command* for a description of the actions that CCP takes on each of the valid options.

Recovery — Reenter the command after you have determined the error.

E09

E09 NOT SIGNED ON

Reason — This message is issued if you entered the Sign-off command, but your terminal is not now signed-on.

If you previously signed-off a terminal and realized you used an incorrect option, you must sign-on again before entering the Sign-off command. See *Sign-off Command* for a description of the hold and drop options.

Recovery — None

E10

E10 THAT COMMAND NOT VALID NOW

Reason — This message is issued if you issue the Sign-off command, but:

- You have interrupted the application program you were running by entering the data mode escape characters, and
- You have not released your terminal from that program by a Release command.

Recovery — If you wish to sign-off your terminal immediately, you must:

1. Enter the Release command.
2. Reenter the Sign-off command.

If you wish to resume communication with the application program you are running, you should:

1. Enter the Run command.
2. When that program completes, you may sign-off if you still wish to do so.

E11

E11 INVALID PROGNAME

Reason — This message is issued when you enter a program request, but the program name you specified is not the name of a program defined for this CCP system run.

Recovery — Perform one of the following depending whether or not you misspelled the program name:

- If you misspelled the name, request the program again by its correct name.
- If you did not misspell the program name, inform your location's data processing personnel that a program required by your operating procedures is not defined to CCP.

E12 INPUT DATA NOT ALLOWED

E12

Reason — This message is issued because you included input data with your program request, but the application program does not allow input data with the program request.

Recovery — Perform the following:

1. Check that you have requested the correct program by consulting your operating procedures. If you have requested the wrong program, reenter the program request with the correct program name.
2. Request the application program again without including input data in the program request.

E13 PROGNAME TOO LONG

E13

Reason — This message is issued when you enter a program name that is longer than six characters.

Recovery — Perform the following:

1. Determine the correct program name from your operating procedures.
2. Request the application program again.

E14

E14 THAT COMMAND NOT VALID NOW

- Reason* — This message is issued when you have entered a program request, but either:
- You have not signed-on the terminal.
 - You have interrupted the application program you were running by entering the data mode escape characters, but have not released your terminal from the program.

This message would be issued if, at either of these times, you meant to enter a command but forgot to include a slash (/) as the first character of that command. Because the slash is not there, CCP interprets your command as a program request.

This message would also occur if, after entering the data mode escape characters, you thought you had resumed communication with the application program by entering the Run command, but in fact you forgot to enter /RUN. You then entered what you meant to be data to that program but, because you are still communicating directly with CCP, your input was interpreted as an attempt to request a program.

- Recovery* — Perform one of the following:
- If you have not yet signed-on, enter the Sign-on command, then your program request.
 - If you meant to make a program request but have not yet released your terminal from the current program, enter a Release command, then your program request.
 - If you meant to resume communication with the application program you have been running, enter the Run command, then your data.

E15

E15 ENTER /FILE THEN PROG REQ

- Reason* — This message is issued when the application program you requested requires a filename association, but you have not previously entered a File command to associate the filenames.

- Recovery* — Perform the following:
1. Check your operating procedures to determine what filenames must be associated.
 2. Enter the specified File command.
 3. Request the application program again.

E16 THAT COMMAND NOT VALID NOW

E16

Reason — This message is issued if you enter the Run command, indicating that you wish to resume communication with an application program you are running, but you are in fact not running an application program. If you had previously entered the data mode escape characters, you may have issued a Release command, which ended your communication with the program you were running.

Recovery — If you wish to begin communicating again with a program from which you released, you must enter a program request for that program.

E17 FILE NAME TOO LONG

E17

Reason — This message is issued in response to the File command when a filename specified was longer than eight characters.

Recovery — Perform the following:

1. Check your operating procedures for the correct filename.
2. Reenter the File command.

E18 THAT COMMAND NOT VALID NOW

E18

Reason — This message is issued in response to a File command. That command cannot be entered now because either:

- You have not signed-on the terminal, or
- You have interrupted an application program you were running by entering the data mode escape characters, but you have not yet released your terminal from that program.

Recovery — Perform one of the following:

- If you have not signed-on, enter a Sign-on command, then reenter the File command.
- If you meant to release your terminal from a program you were running, enter a Release command, then reenter the File command.

E19 INVALID SYNTAX

E19

Reason — This message is issued in response to an incorrectly entered File command. Check for these possible errors:

- No comma between reference name and actual name.
- Comma followed the reference name, but actual name omitted.
- Actual name followed by a character other than blank.

Recovery — Determine the error and reenter the command.

E20**E20 FILENAME ***** UNKNOWN**

Reason — This message is issued in response to the File command when a reference name you specified is not defined for the CCP system run.

Recovery — Perform one of the following:

- Check your operating procedures for the correct reference name to be entered. If you entered the wrong reference name, reenter the command with the correct name.
- If the reference name you entered was the name specified in your operating procedures, inform your location's data processing personnel that a reference name specified by your operating procedures is not defined to CCP.

E21**E21 THIS FILE COMBINATION NOT VALID**

Reason — This message is issued in response to a File command of the form /FILE reference-name,actual-name, when the two names specified cannot be validly associated.

Recovery — Perform one of the following:

- Check your operating procedures to see that you entered the correct combination of names. If you made an error, reenter the File command with the correct names.
- If you entered the correct combination of names, inform your location's data processing personnel that the name combination specified in your procedures is not defined to CCP.

E22**E22 THAT COMMAND NOT VALID NOW**

Reason — This message is issued in response to a Name command. That command cannot be entered now because either:

- You have not signed-on the terminal.
- You have interrupted an application program by entering the data mode escape characters, but have not released your terminal from the program.

Recovery — Perform one of the following:

- If you have not signed-on, enter a Sign-on command, then reenter the Name command.
- If you meant to release your terminal from a program you were running, enter a Release command, then reenter the Name command.

E23 NAME TOO LONG**E23**

Reason — The terminal name you specify in a Name command can be up to six characters long. This message is issued in response to the Name command when the name you entered was longer than six characters.

Recovery — Perform the following:

1. Consult your operating procedures to determine the correct name.
2. Reenter the Name command.

E24 UNKNOWN TERMINAL NAME**E24**

Reason — This message is issued in response to the Name command when the terminal name you entered is not defined for this CCP system run.

Recovery — Perform the following:

1. Check your operating procedures to determine that you entered the correct terminal name. If you made an error, reenter the Name command with the correct terminal name.
2. If the terminal name you entered is the one specified by your operating procedures, inform your location's data processing personnel that a terminal name specified by your operating procedures is not defined to CCP.

E25 UNASSIGNED TERMINAL NAME**E25**

Reason — This message is issued in response to the Name command when the name you entered is not a valid name for your terminal.

Recovery — Perform the following:

1. Send a message to the system operator. Ask that the specific name be assigned to your terminal.
2. Wait for his reply acknowledging that the name has been assigned.
3. Reenter the Name command.

E26**E26 NAME NOT IN FILE TABLE**

Reason — This message is issued in response to a File command of the form /FILE reference-name, requesting that a reference name association be deleted, but you do not have an association in the CCP file table for that reference name.

Recovery — Perform one of the following:

- Check your operating procedures to determine that you have specified the reference name correctly. If you made an error, reenter the File command with the correct name.
- If you entered the reference correctly, then you have attempted to delete a file association that does not need to be deleted. Simply continue your terminal session.

E27**E27 INPUT TOO LONG**

Reason — The input you just sent to the system is longer than is allowed by your installation. Either:

- You entered a command that was too long.
- You included data with a program request and the data was too long.

Recovery — Perform one of the following:

- Check your operating procedures for the correct command or program request to be entered. If you entered the wrong command or program request, reenter it correctly.
- If what you entered was specified in your operating procedures, inform your installation manager that either an error exists in your procedures or there is an insufficient area within CCP to enter a command or program request.

R01**R01 COMMANDS SUSPENDED — WAIT**

Reason — This message is issued because you entered a program request or other command and the system operator has temporarily suspended terminals from requesting CCP services. The CCP notifies you with another message when you can resume requesting the CCP services.

Recovery — Wait until you receive the R02 COMMANDS RESUMED — REENTER message.

R02**R02 COMMANDS RESUMED — REENTER**

Reason — This message is informing you that the system operator is again ready to have the CCP accept input from terminals.

Recovery — Reenter the command or program request that you entered before you received the R01 COMMANDS SUSPENDED — WAIT message.

R03 REQUESTED PROG SUSPENDED

R03

Reason — This message is issued when your terminal is in no-queue status and the application program that you requested was made temporarily unavailable by the system operator.

Recovery — Perform one of the following:

- Enter the Message command and ask the system operator to inform you when the application program will be available.
- Enter the Queue command and then request the application program again if instructed to do so by your operating procedures.
- Do other work and request this program at a later time.

R04 REQUESTED PROG BUSY

R04

Reason — Some application programs can be requested by more than one terminal. This message is issued when your terminal is in no-queue status and you have requested a program that is currently handling the maximum number terminals it can serve.

Recovery — Perform one of the following:

- Enter the Queue command and then request the application program again if instructed to do so by your operating procedures.
- Request a different program.
- Do other work and request this program at a later time.

R05 PROG NO LONGER AVAILABLE

R05

Reason — This message is issued when you make a request for an application program that will not be available for the remainder of this CCP system run.

Recovery — Perform one of the following:

- Request another program.
- Sign-off.

R06**R06 SYSTEM BUSY – RETRY OR /Q**

Reason – This message is issued when your terminal is in no-queue status and the resources for the application program that you requested are not immediately available. This message will occur when another terminal has already made a program request, but that program has not yet been started.

Recovery – Perform one of the following:

- Request the program again.
- Enter the Queue command and then request the program again.
- Do other work.

R07**R07 SYSTEM ERROR – RETRY**

Reason – This message is issued when the CCP attempted to start the application program you requested, and a hardware error occurred. The system operator has also been informed of the hardware error.

Recovery – Perform the following:

1. Request the program again.
2. If the error reoccurs, inform your location's data processing personnel of the problem.

R08**R08 REQUESTED PROG UNAVAILABLE**

Reason – This message is issued because the system operator has prevented the use of the program you requested for the entire CCP system run.

Recovery – Perform one of the following:

- Request another program.
- Sign-off.

R09**R09 UNIT RECORD DEVICE UNAVAILABLE**

Reason – This message is issued because the program you requested requires a unit record device to print, read cards, or punch cards, and the device is not available. This message can occur even when your terminal is in queue status.

Recovery – Perform one of the following:

- Send a message to the system operator to determine when the device will be available.
- Request the program again when the device is available.
- Request another program.
- Sign-off.

R10 LOGICAL TERMINAL UNAVAILABLE**R10**

Reason — This message is issued because the program you requested required use of a terminal, but that terminal has not had assigned to it a name by which the program references it.

Recovery — Perform the following:

1. Send a message to the system operator. Give the name of the program you requested and ask the operator to assign a name to any terminal that program requires.
2. Reenter the program request.

R11 DISK FILE NO LONGER AVAILABLE**R11**

Reason — This message is issued because the program you requested requires a disk file that will no longer be available during the remainder of this CCP system run.

Recovery — Perform one of the following:

- Request a different program.
- Sign-off.

R12 DISK FILE NO LONGER AVAILABLE**R12**

Reason — This message is issued when you have requested a program that requires a disk file that is already being used exclusively by another program, and that program will keep control of it for the remainder of this CCP system run. The disk file is not available to your program; therefore, you cannot use the requested program.

Recovery — Perform one of the following:

- Request another program.
- Sign-off.

R13 CORE UNAVAILABLE**R13**

Reason — This message is issued if the program you requested requires more main storage than will be available during the remainder of this CCP system run.

Recovery — Perform one of the following:

- Request another program.
- Sign-off.

R14**R14 CORE TEMP UNAVAILABLE**

Reason — This message is issued when your terminal is in no-queue status and the main storage required by the program you requested is temporarily unavailable.

Recovery — Perform one of the following:

- Enter the Queue command and then request the program again if instructed to do so by your operating procedures.
- Request the program later.

R15**R15 REQUIRED TERMINAL UNAVAILABLE**

Reason — This message is issued when the program you requested requires use of a terminal that is not available. Your terminal's status determines the exact reason:

- Queue status — Indicates that a terminal the program requires may not be available for the remainder of this CCP system run.
- No-queue status — Indicates that a terminal the program requires is unavailable, either temporarily or for the remainder of this CCP system run.
- A terminal required by the program you requested may be a command terminal that is signed-on and performing work. Since the system cannot know when that terminal will sign-off, it considers that that terminal may not be available for the remainder of this CCP run.

Recovery — Perform one of the following depending whether or not your terminal is in queue status:

- Queue status — Request another program or sign-off.
- No-queue status — Enter the Queue command and reenter the program request if you would be willing to wait for the program to start if the terminal it requires is only temporarily unavailable. If that terminal may be unavailable for the remainder of this CCP system run, this message will again be issued in response to your program request, and you will not be able to run the program. If that terminal is only temporarily unavailable, CCP will accept the program request and cause your terminal to wait until that program is started.

R16**R16 DISK FILE TEMP UNAVAILABLE**

Reason — This message is issued when your terminal is in no-queue status and the program you requested requires a disk file that is temporarily unavailable.

Recovery — Perform one of the following:

- Enter the Queue command and then request the program again if instructed to do so by your operating procedures.
- Reenter the program request later.

R17 FILE TABLE FULL

R17

Reason — The CCP maintains a table that contains file name associations. This message is issued in response to a File command of the form /FILE reference-name,actual-name when the file table is full and CCP cannot accept new associations. The file table is shared by the operators of all command terminals. It may be full because of a large number of associations entered by you, or entered by other operators.

Recovery — Perform one of the following:

- Clear a reference name association you no longer need by entering a File command of the form /FILE reference-name. Then reenter your previous File command.
- Clear all of your reference to actual name associations by entering a File command of the form /FILE blank. Then reenter your previous File command.
- Send a message to the system operator indicating that you have encountered a FILE TABLE FULL condition.
- Retry the command at a later time.

S01 PROG REL — PROCEED

S01

Reason — This message is issued when an application program releases its control of your terminal and the program gives an end message. If the application program does not give an end message, this message is not given.

You can enter other commands or a program request to continue your current terminal session or you can sign-off the terminal.

Recovery — None

S02 PROG REL — SHUTDOWN

S02

Reason — This message is issued when an application program releases its control of your terminal and the program gives an end message, and when the CCP is in the process of shutting down. If the application program does not give an end message, this message is not given. You are not allowed to enter commands or program requests.

Recovery — None

S03 PROG END — PROCEED

S03

Reason — This message is issued when the application program you requested has completed processing and given you an end message. If the application program did not give an end message, this message is not given. Your terminal is no longer under the control of the application program. You can enter other commands or a program request to continue your current terminal session or you can sign-off the terminal.

Recovery — None

S10

Reason – This is a message sent to your terminal by the system operator. The message text consists of the information the system operator intends for you.

The system operator may be directing you to perform some action, or he may be asking you a question or responding to a question of yours.

Recovery – None

S10**S11 INPUT IGNORED**

Reason – The system has not acted on the information you last sent from your terminal because it was attempting to send a message to your terminal.

One of the following has occurred:

1. The system operator has placed your terminal offline while you were entering a message to the system.
2. A program you were communicating with has been cancelled while you were sending data to it.
3. You entered the data mode escape characters while communicating with a program, and that program was cancelled before you could either resume communication with the program or release your terminal from it.

Recovery – Depending on the situation previously described:

1. Your terminal is offline and cannot communicate with CCP.
2. Your terminal is free to enter a command or program request.
3. Your terminal is free to enter a command or program request.

S11**S12 TP ERROR ON INPUT**

Reason – An error occurred in the transmission of the last information you sent from your terminal. The CCP informed the system operator of the error, and he has caused the system to try to read from your terminal again.

Recovery – Reenter the command or program request.

S12

1. The first part of the document discusses the importance of mathematics in various fields of study and its role in developing critical thinking skills. It highlights how mathematical concepts are applied in science, engineering, and economics, providing a foundation for understanding complex systems and making informed decisions.

2. The second part of the document focuses on the practical application of mathematical principles. It includes several examples of how mathematical models are used to solve real-world problems, such as optimizing resource allocation and predicting market trends. These examples demonstrate the power of mathematics as a tool for analysis and problem-solving.

3. The third part of the document explores the historical development of mathematics and its impact on society. It traces the roots of mathematical thought from ancient civilizations to the modern era, showing how mathematical discoveries have shaped our world and continue to influence technological advancements and scientific progress.

This section provides four examples showing typical terminal sessions. The first example shows a basic application using only the required commands. The examples progress using more commands and conditions to show you a more complex application program.

Your installation data processing personnel will define to you the process for each application. These descriptions can be inserted in this manual so you have a handy reference to all of the material you might need. An example sheet is included to help you in preparation for the steps involved in using an application program during a terminal session. The steps should be brief enough to answer most questions that might arise during the running of application programs.

These examples show only the information that you enter and not the complete application program which would include output data and message numbers.

In case of difficulty, you may want to call other personnel to assist you with your problem. Note here your terminal number and the frequently called telephone numbers.

Terminal number _____

System operator telephone number _____

Examples

Telephone Numbers

Example 1	Comments
<pre data-bbox="467 296 719 453"> /ON INVTRY AN1743 /OFF </pre>	<pre data-bbox="1060 300 1409 453"> Sign-on Program request with input data Sign-off </pre>

Example 2	Comments
<pre data-bbox="467 1146 740 1808"> /ON MONDAY INVTRY AN1743 ~ CR 101 ~ ENDI /OFF HOLD ~ /ON MONDAY CUSTMR SCHULTZ ~ /* /OFF DROP </pre>	<pre data-bbox="1060 1146 1414 1801"> Sign-on using password Program request with input data Second data End of data indication Sign-off and hold connection Other users Sign-on using password Program request with input data End of data indication Sign-off and drop the connection </pre>

Example 3	Comments
<pre> /ON SECURE /Q /FILE SCHOOL,MAYO SCHDCH FRED JONES MON 1PER GERMAN BILL SMITH THU 3PER BIOLOGY ~~~~~ LAST ITEM /MSG PLEASE LIST UPDATED MAYO SCHEDULE /OFF </pre>	<pre> Sign-on using password Hold program request until it can be serviced Select a file to be used Request program (Schedule change) Enter data Enter data Enter end of data indication Send message to system operator Sign-off </pre>

Example 4	Comments
<pre> ///// /RELEASE </pre>	<pre> At some point in the running of a program, the application appears to be responding incorrectly Enter the data mode escape characters End your communication with the application program </pre>

Application Inventory Status Inquiry (Example 2)

Who to contact in case of difficulty Fred Jones

Step 1. Turn power on

Step 2. Reset terminal keyboard

Step 3. Sign-on using the current password -
MONDAY

Step 4. Key in program name - INVTRY

Step 5. Follow name with 1 space

Step 6. Key in part number

Step 7. Press enter key

Step 8. Repeat steps 6 and 7 as often as
required

Step 9. Enter END1 (end of data indicator)

Step 10. Sign-off

Step 11. _____

Step 12. _____

Step 13. _____

Step 14. _____

Step 15. _____

Application _____

Who to contact in case of difficulty _____

Step 1. _____

Step 2. _____

Step 3. _____

Step 4. _____

Step 5. _____

Step 6. _____

Step 7. _____

Step 8. _____

Step 9. _____

Step 10. _____

Step 11. _____

Step 12. _____

Step 13. _____

Step 14. _____

Step 15. _____

Application _____

Who to contact in case of difficulty _____

Step 1. _____

Step 2. _____

Step 3. _____

Step 4. _____

Step 5. _____

Step 6. _____

Step 7. _____

Step 8. _____

Step 9. _____

Step 10. _____

Step 11. _____

Step 12. _____

Step 13. _____

Step 14. _____

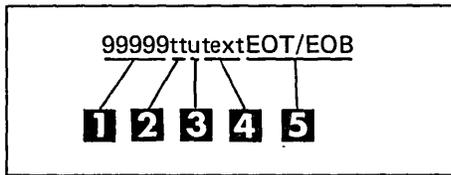
Step 15. _____

The online terminal test is a method of checking the proper operation of your terminal. You can request that a test be run if your installation has allowed online testing and when you are allowed to send data. The system operator can also request an online test on your terminal unless it is a 3270 or 3735. When an online test is requested by the system operator, the data is written at your terminal.

If you determine that your terminal is not operating properly, you should notify the system operator by using the message command or else contact the data processing personnel by telephone and inform them of the difficulty with your terminal.

TEST PROCEDURE FOR THE 1050, 2740/2741, AND CMCST TERMINALS

The format of the test request submitted from a 1050, 2740/2741, or Communicating Magnetic Card Selectric Typewriter (CMCST) is:



- 1** Five 9's indicate an online test request.
- 2** Indicates the type of test. Enter 01, 02, 03, 04, 05, or 06. See the following chart for a description of the test.
- 3** For the IBM 1050 Data Communication System only, the u is the component select character. It indicates the address of the component to receive the return message. The component select characters are:
 - 1 — Printer 1
 - 2 — Printer 2
 - 3 — Punch 1
 - 4 — Punch 2
 - 9 — Any or all output components

See the *IBM 1050 Operator's Guide*, GA24-3125 for additional information.

For non-1050 terminals enter one or more blanks.

- 4** Enter variable information and the Echo Test (Test 01) will transmit the information back to your terminal.
- 5** Enter the end of message character to begin the test.

Test results are shown in the following chart so that you can make a comparison to determine if the test performed correctly.

Online tests

What to do in case of errors

- Test Procedures
- 1050
- 2740
- 2741
- CMCST

1050 components

Non-1050 terminals

Test Title	Number	Description	Enter	Example Entry With Results
Echo Test	01	Transmits the text portion of the test (indicated by ****) back to the terminal making the request	9999901 6 ****	9999901 sample text sample text
All Characters Test	02	Prints the standard character set for checkout of the terminal	9999902 6	9999902 0123456789abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ
Tilt Test	03	Checks the IBM SELECTRIC print mechanism	9999903 6	9999903 a/ctevgxhy&@bsdufwiz., \$r9o6m4k2-0q8p7n513j1
Rotate Test	04	Checks the IBM SELECTRIC print mechanism	9999904 6	9999904 a.efhbj\$noqk/,v/ys156 8239740tzxu@1rpm-cigd&
Twist Test	05	Checks the IBM SELECTRIC print mechanism	9999905 6	9999905 A?\$C9TrE6VoG4XmH2Yk+0 =.J,;iLz%fNw"dPu*bQs¢-
SELECTRIC Analyzer Test	06	Analyzes the carrier return mechanism to determine if it performs within specifications	9999906 6	9999906 1234567890 space&bksp n1 1f 1 2 3

Some deviation in printed output occurs on the 1050, 2740, and 2741, but it should have little effect on the overall usefulness of the tests.

Test Request Errors

If errors are encountered while the CCP decodes the request message, an INVALID ONLINE REQUEST (INV OLT REQ) message is written back to the requesting terminal. The following is an explanation of the messages.

Error Messages

INV OLT REQ 0

- Reason* — The test you requested cannot be run at your terminal.
- Recovery* — Request one of the online tests that can be at your terminal. The test numbers you can enter are 01, 02, 03, 04, 05, or 06.

INV OLT REQ 1

- Reason* — An area in main storage is reserved to contain the message you enter. Your message exceeded the reserved area in main storage.
- Recovery* — Revise and shorten your message. Resubmit the test request.

INV OLT REQ 2

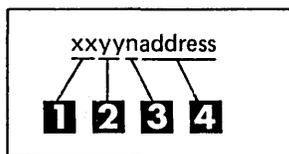
- Reason* — You specified that the test was to be written to the 1050 Data Communications System by entering something other than a blank.
- Recovery* — Resubmit the test request and enter a blank as stated in step **3** of the 1050 components test procedure.

TEST FOR 3270

You can perform a test on your 3270 terminal. Perform the following steps to initiate a test.

3270 Test

1. Press the CLEAR key and immediately press the RESET key to unformat the screen. The cursor should now be at position 1 and the screen should be completely blank.
2. Type in a message in this format:



- 1** A number from 23 to 34 specifying the desired test. (See *Test Types*.)
- 2** A number from 01 to 99 specifying the number of times the test is to be written. The test can only be sent once to a printer.
- 3** The number four (4) indicating the length of the address.
- 4** The address of your terminal. Your installation must tell you the address of your 3270. If the address you specify is not the correct address of your terminal, unpredictable results may occur to other terminals on the system.

3. Press TEST REQUEST.

When the online tests are complete, you and the system operator have a list of the test results. Record your test results for FE.

Note: To resume communication with an application program you must press CLEAR, wait for message A11 CLEAR to appear, and then press the ENTER key. The application program is informed that you cleared the screen.

Test Types

Test Types

The abbreviations of the orders tested on the 3270 are:

EM	End of message
IC	Insert cursor
NL	New line
SBA	Set buffer address
SF	Start field
WCC	Write control character

Test Title and Description

Test	Title and Description
Test 23	23 3270 Basic EBCDIC Test Message This test checks all alphameric characters at a display station or printer. It also checks the use of the WCC to sound the alarm and allows attribute field specifications to be checked at a display station. It prints 40 characters per line.
Test 24	24 3270 Model 1 Align EBCDIC Test Pattern This test checks position alignment for the 480-character display station. It also checks the WCC to sound the alarm. It prints 40 characters per line.
Test 25	25 3270 Model 2 Align EBCDIC Test Pattern This test checks position alignment for the 1920-character display station. It also checks the WCC to sound the alarm. It prints 80 characters per line.
Test 26	26 3270 Orders EBCDIC Test Message Tests 3270 orders, checks the WCC to sound the alarm, and uses display and intensified brightness. It prints 64 characters per line.
Test 27	27 3270 EBCDIC Universal Character Set Test Pattern This test uses the erase/write command, displaying the universal character set in EBCDIC. It checks the WCC to start the printer, sounds the alarm (on a display), and prints 132 characters per line. NL and EM are used on a printer. SF, NL, and EM are used on a display.
Test 28	28 3270 NL/EM EBCDIC Test Pattern This test is mainly intended to test EM and NL on the printer. The WCC is checked to start the printer and sound the alarm on a display. It prints 132 characters per line.
Tests 29-34	29-34 3270 ASCII Test Pattern These tests correspond to tests 23-28 except that transmission is in ASCII.

Note: Your terminal is either EBCDIC or ASCII, not both, and you can find out which from your data processing personnel.

TEST FOR 3735

The 3735 online test provides a means of testing the communications facilities of that terminal. The following steps are followed to perform these tests:

3735 Testing

1. Enter local mode.
2. Press the CODE and REQ key simultaneously.
3. Enter the 2-digit number that identifies the test to be run.
 - 09 This test transmits the entered message to the terminal the number of times specified in step 6.
 - 10 This test transmits 36 alphameric characters (A-Z and 0-9) the number of times specified in step 6. EBCDIC terminals transmit EBCDIC characters and ASCII terminals transmit ASCII characters.
4. Press the ENTER key.
5. A message requests that you enter the number of times the test message is to be transmitted.
6. Enter a 2-digit number from 01-99 indicating the number of times the test is to be run.
7. Enter your 3735 addressing characters if this terminal is on a non-switched line.
8. Enter up to 225 characters for the test message if test 09 is selected. Backspace is not allowed.
9. Press END FORM. If this terminal is on a switched line, place the call to establish the connection.
10. Following completion of the test a message is printed indicating the number of blocks in error, if any.

application program. The instructions written by a programmer and stored in a computer that tell the computer how to process inventory, inquiry, order-entry, and other data processing jobs. You request and communicate with application programs when you operate a CCP terminal.

command. The word you enter from a terminal that defines to the CCP the operation to be performed.

cursor. A movable spot of light on the cathode ray tube of a display terminal that indicates where the next character will be entered.

default. The selection of one alternative from a set of values. Selection is made by the system when you do not specify a value.

dialing. Establishing a connection using common communication lines between a computer and a terminal.

filename. An arbitrary symbol created by the programmer to identify and reference a collection of related records.

inquiry. An application in which a request for information is entered from a terminal and a response is returned to the terminal. Airline personnel use an inquiry application when asking for the number of seats available on a flight.

inquiry with update. An application in which the transaction records you enter from a terminal are used to interrogate and update one or more master files maintained by the system.

installation. A particular data processing system (System/3), in terms of the work it does and the people who manage it, operate it, apply it to problems, and use the results it produces.

message-text. A series of words or symbols designed to convey information. Messages are routed to you at a terminal or you can send messages to the system operator.

non-switched lines. A connection between a terminal and a computer that does not have to be established by dialing.

offline. Pertaining to terminals that are not under control of the computer.

online. Pertaining to terminals that are under control of the computer and are allowed to interact with CCP.

order entry application. An application in which a transaction (such as a sales order) is entered into the computer from a terminal.

password. A security feature of the CCP that requires you to enter a predetermined name or group of characters. The password must be accepted by CCP before any input is accepted.

queue. A waiting list in a computing system. Application program requests are placed on queue if they cannot be started immediately.

resources. Any facility of the computing system required by an application program, including main storage, input/output devices, and central processing unit. An application program can be placed on a queue when resources are not available.

switched lines. A communication line in which the connection between the computer and a remote station is established by dialing.

system operator. The person attending the System/3 who has full responsibility for controlling a CCP work session.

symbolic terminal name. The name or group of characters that identifies a terminal. The symbolic terminal name is used by the CCP and the system operator to refer to a specific terminal. Symbolic terminal names are easy to use and remember. For example, your name could be used as the symbolic terminal name of your terminal.

terminal. A device used to receive and send information. Terminals are connected to a system on either switched or non-switched lines. They are used to communicate with the CCP system at a remote location.

terminal session. The duration of time that you are communicating with the CCP. It begins when you sign-on the terminal and ends when you sign-off the terminal.

CCP system run. The duration of time that you are permitted to communicate with the CCP. It begins when the system operator starts the CCP and ends when the system operator shuts down the CCP.

- /FILE (file command) 22, 16, 27
 - /MSG (message command) 20, 16, 27
 - /NAME (name command) 20, 16, 27
 - /NOQ (no-queue command) 24, 16, 27
 - /OFF (sign-off command) 19, 16, 27
 - /ON (sign-on command) 17, 16, 27
 - /Q (queue command) 24, 16, 27
 - /RELEASE (release command) 26, 16, 27
 - /RUN (run command) 25, 16, 27
- A**
- A (accepted message) 29, 30-33
 - alarm turned on 8
 - align test pattern test 60
 - all characters test 58
 - allowing output to your terminal 9
 - analyzer test 58
 - application program 14
 - definition of 63
 - associating filenames 22
 - attention light 8
 - automatic EOB feature 6, 7
- B**
- backspace key 25
 - basic test message 60
 - bid light 8
 - buffered receive feature 8
- C**
- cancel file commands 23
 - cancel one file 23
 - carriage return key 6, 7, 8
 - checklist 5
 - clear key 11, 59
 - CMCST terminal
 - online test 57
 - operating consideration 10
 - command 3
 - definition of 63
 - commands, list of and description 16
 - commands after signing-on 17
 - communicate mode 5
 - component select character 57
 - current system information 13
 - cursor 59
 - definition of 63
- D**
- diald (switched line) 20
 - data mode escape 25, 16, 27
 - commands entered after 25
 - default 20
 - definition of 63
 - default when signing-off 26
 - deleting one filename 23
 - description of online tests 57
 - dialing 20, 51
 - definition of 63
 - doing business as name 21
 - drop option 20
 - non-switched lines 20
 - switched lines 20
- E**
- E (error message) 29, 33-42
 - echo test 58
 - error messages 59, 33-42
 - ending a current work session 52
 - enter light 8
 - entering commands 15
 - examples of
 - file command 22
 - name command 21
 - program information 14
 - sign-on command 15
 - terminal session 51
- F**
- file command (/FILE) 22, 16, 27
 - file reference names 22
 - filename 22
 - definition of 63
 - filename in file command 22
 - format of
 - received messages 29
 - sending commands 15
 - sending messages 20
- G**
- glossary 63
- H**
- hold option (sign-off) 19
 - how to enter a command 15
 - how to operate your terminal 5
 - how to request programs 18
 - how to use this manual 1
- I**
- interrupting application programs 25
 - introduction to CCP 3
 - input data with program request 19
 - input inhibited light 11
 - inquiry 14
 - definition of 63
 - inquiry with update
 - definition of 63
 - installation 51, 14
 - definition of 63
 - inv olt req 59
 - invalid syntax message 9, 33
 - issuing commands after data mode escape 25
- L**
- leaving a terminal unattended 19
 - limiting terminal time 13
 - list of terminal commands 16
 - local mode 8

M message command (/MSG) 20, 16, 27
message-test 20
 definition of 63
 length of message 20
 when to send message 20
messages
 first letter identification 29
 from CCP 29
 from system operator 29

N name command (/NAME) 20, 16, 27
non-switched lines (sign-off) 20
 definition of 63
no-queue command (/NOQ) 24, 16, 27

O offline 20
 definition of 63
online 20
 definition of 63
online after drop option 20
online terminal test procedure 57
online test request errors 59
operating procedures, general 5
order abbreviation 60
order entry application 14
 definition of 63
order of running programs 13
orders test message 60
other sign-on security methods 18

P password 13, 17
 data 17
 definition of 63
 option 17
 security method 18
program
 information 14
 name 19
 request 18
 to be run each day 13
 waiting list 18

Q queue 24
 definition of 64
queue command (/Q) 24, 16, 27
 specified before program request 24, 27
queuing program requests 24

R R (rejected message) 29, 42-47
receiving messages 29
rejected program request 18
requesting application programs 18
requesting online test 57
reset key 59, 11
resetting terminal name 22
resources
 definition of 64
rotate test 58
release command (/RELEASE) 26, 16, 27
run command (/RUN) 25, 16, 27

S S (system message) 29, 47-49
sample test formats 58
sample terminal session 52-54
schedule of work 13
security of a terminal 18, 19
selectric analyzer test 58
sending message to system operator 20
sequence of terminal commands 27
sign-off command (/OFF) 19, 16, 27
sign-on command (/ON) 17, 16, 27
 commands entered after 17
sign-on example 15
signed-on until 17
six installation defined characters 25
space bar 15
special consideration when using terminal 5, 15
specifying information about a program 14
specifying name of terminal 21
standby light 7
starting a work session 51
station control and checking 7
steps used to run a job 54
summary of terminal commands 27
switched lines (dialed) 20
 definition of 64
symbolic terminal name 21
 definition of 64
system information 13
system operator 17
 definition of 64
system run, CCP 43
 definition of 64

T telephone line 3
telephone numbers 51
terminal 3
 definition of 64
terminal names 21
terminal online tests 57
terminal session 5, 17, 51
 definition of 64
terminals supported by CCP 5
test procedure 57
test request errors 59
test types 60
tilt test 58
time to enter message 20
transmit light 7
twist test 58

U unattended terminal 18
unavailable resources 18
universal character set test pattern 60
using a specific disk data file 22
using the CCP from a terminal 15

W waiting list 18
what to do in case of errors 57
what you must know to use CCP 5
when to send a message 20
work schedules 13

Y your terminal and security 18

1050 data communication system
 online test 57
 operating considerations 6
2740 communication terminal
 online test 57
 operating considerations 7
2741 communication terminal
 online test 57
 operating considerations 9
3270 information display system
 online test 59
 operating considerations 11
3735 programmable terminal
 online test 61
 operating considerations 12

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GC21-7580-0

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